

FUNDAMENTALS OF DIALECTICAL MATERIALISM

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Introduction

MARXIST-LENINIST PHILOSOPHY AND THE CONTEMPORARY IDEOLOGICAL STRUGGLE

Our time is a time of struggle between socialism and capitalism, a struggle in all spheres of life and human activity—economic relations, politics, ideology and culture. It is a fierce struggle, raging in the modern world, between two ideologies, the communist and the bourgeois.

Many years ago, speaking of the future of Marxist theory, Lenin predicted that it would gain many fresh victories. The new historical epoch has indeed witnessed unprecedented triumphs of the revolutionary theory of the proletariat. *Marxism-Leninism has won the minds of all progressives.* Hundreds of millions of people have ranged themselves under the Marxist-Leninist banner and are building the new socialist and communist society; millions of workers, peasants and intellectuals, and whole nations in Asia, Africa and Latin America, have risen against capitalism, colonialism and imperialist aggression.

The historic victories of the working class were based on the profoundly scientific Marxist-Leninist ideas, whose validity has been proved time and again by the social experience of our times. The brilliant ideas of Marx and Lenin are lighting man's road to communism.

Unlike Marxism-Leninism, bourgeois doctrines and schools have not stood the test of time. They have proved incapable of providing scientific answers to the cardinal questions of contemporary life and struggle. The bourgeois ideology is in the throes of a deep-going crisis, the spiritual upshot of capitalism's crisis as an economic and political system. The ideologists and politicians of the capitalist world are compelled to admit their ideological impotence.

in the face of reality and the communist philosophy. Some time ago, the late John Foster Dulles said in his book, *War or Peace*, that there was confusion in men's minds and corrosion in their hearts, and that capitalism was suffering setbacks in the contemporary "war of ideas". The ideologists of the modern bourgeoisie admit candidly that their "free world" needs a spiritual weapon to counteract communist ideas or what John Dewey, the U.S. pragmatist philosopher, described as the "new religions" emanating from the East.

The crisis of bourgeois ideology is felt most distinctly in the field of bourgeois philosophy. For all their attempts throughout the present century, bourgeois philosophers have been unable to provide the answers to the vital questions of being and cognition. They proved incapable of analysing the contemporary historical epoch and probing the motive forces and the laws governing social development, that is, the logic of social existence, which, as Lenin pointed out, is "man's most important task".

It is a task contemporary bourgeois philosophy cannot fulfil, because it lacks a *scientific outlook and a scientific method of research*. The bourgeoisie of our time is inimical to any scientific cognition of objective reality. It dreads the laws of history, which are leading inexorably to its doom, to the victory of the working class and the triumph of socialism and communism. This is why its philosophy cannot be scientific and cannot provide adequate solutions to the problems of our time and to any of the vital philosophic problems. Neither can it, for all its bombast, substantiate the process of the scientific cognition of the world and thus be an effective philosophy of science.

Small wonder, therefore, that modern bourgeois philosophers spurn as outdated the view that philosophy is scientific knowledge and quest for truth. They contend that philosophy in our time can be either a "pragmatic" instrument of party groups or a mystico religious opiate against the harsh realities of the workaday world. Palmiro Togliatti noted rightly that despair was the hallmark of modern bourgeois philosophy, that in the capitalist world man's proud faith in the creative powers of his reason and in progress had disappeared and that old idols and time-worn superstitions were re-emerging. Scepticism, resigna-

tion and degradation were invading all intellectual spheres and morality.

At the Thirteenth International Congress of Philosophy in Mexico in 1963, bourgeois philosophers referred to a crisis of philosophical thinking. Francisco Larroyo, the Mexican philosopher, stressed in his report, "The Criticism of Our Time", that the "whole of the geographical and historical world" was in a state of crisis. There was a "crisis of the personality", he said, a social and spiritual crisis and the humanities failed to provide any principles, let alone solutions. Herbert W. Schneider, a U.S. philosopher, noted in his report, "Global Orientation", that man lacked a clear outlook, while the number of "disorientators" increased and confused him.¹ The Mexican bourgeois newspaper, *Excelsior*, wrote at the time of the Congress that modern science and philosophy had lost their humanistic sense and were therefore incapable of giving man the ideas and principles he needed. These are very pertinent admissions of the crisis and degradation of bourgeois philosophy. Lucien Sève, the contemporary French materialist philosopher, observed rightly that "there is no great bourgeois philosophy any longer—this is an incontrovertible fact".² No longer is there any Descartes, Spinoza, Diderot, Hegel or Feuerbach. The bourgeoisie could breed such great thinkers only in the epoch when it played a progressive and revolutionary role in history.

That bourgeois philosophers are looking for a way out of the crisis of ideas goes without saying. In contrast to the "dogmatism" of Marxist philosophers they have been producing numerous philosophical systems and all sorts of "isms", considering this a sign of strength, of "creative quest" and of different "approaches to the truth". Actually, it is a sign of the weakness of their philosophy, evidence of their inability to work out an integral and consistent world outlook and to provide a conclusive scientific conception of new phenomena and of the contemporary problems. The prominent German philosopher, Edmond Husserl, could

¹ *Memorias del XIII Congreso Internacional de Filosofía, Comunicaciones Introdutorias*, México, 1963, p. 195.

² Lucien Sève, *La philosophie française contemporaine et sa genèse de 1879 à nos jours*, Paris, 1962, p. 254.

not help asking: "What do we have in lieu of an integral and vital philosophy?" Here is how he answered his own question "What we have is an endlessly growing production of philosophical works lacking any and all intrinsic connections."¹ He could not have been more explicit.

The spread of various forms of *religious philosophy* is a characteristic tendency in the search of a way out of the philosophical crisis. Clericalism is gaining influence steadily as imperialism's political and ideological weapon. The ideologists of the bourgeoisie are terrified by the historic victories of the working class, the triumphs of Marxism-Leninism and the staggering successes of science, and are falling back on the most reactionary and backward mystical ideas and doctrines as a counterweight to the progressive revolutionary Marxist Leninist ideas. Modern bourgeois philosophy has a tendency to revive the Catholic ideas of Thomas Aquinas and St. Augustine, both of them church fathers of the early Middle Ages, to say nothing of the mystics and theologians of the later centuries.

The religious philosophers conceal the real causes of crises, wars and social and political upheavals, and blame them on rationalism, materialism and science. Take the platform speech delivered by Pope Pius XII at the International Congress of Philosophy in Italy in 1958. The Pope argued that philosophical rationalism was at the root of all human suffering and that "mankind was reaping the bitter fruits of rationalism". He maintained that the "shell of rationalism and secret pride" had to be broken and that people should turn to religion and to God, who "will never cease from calling on the philosopher to testify to Him and return to the fold".²

The revival and spread of idealistic religious ideas, which pervade not only the various philosophical systems and doctrines, but virtually all spheres of man's spiritual life, speak of the degradation of bourgeois philosophical thought and the deep-seated spiritual crisis of the modern bourgeoisie.

This does not mean that modern bourgeois philosophy is of no consequence. To dismiss it as a triviality would be

¹ E. Husserl, *Méditations cartésiennes*, Paris, 1931, p. 4

² *L'Osservatore Romano*, September 22-23, 1958

wrong in principle and practice. On the contrary, it is an adversary to be reckoned with, for it has the support of the monopolies and the capitalist state, and strong financial and press backing. Moreover, in many countries, bourgeois philosophy, say neo-Thomism, has the support not only of the Catholic Church, but also of Catholic political parties holding power or highly influential in political affairs. Contemporary bourgeois philosophy still wields a strong influence over some sections of the population in the capitalist countries, and goes out of its way to gain influence in other countries as well. A certain section of scientists and researchers, for example, is still influenced by the positivist philosophy—especially in the bourgeois countries, but also to a degree in some of the People's Democracies. Existentialism, too, wields considerable power over writers and artists, and the youth. This is why the struggle of the Communist Parties and all forward-looking people against bourgeois philosophy calls for great efforts, consistency and dedication to principle.

The focal point of this struggle is the undeviating adherence to the *Leninist principle of partisanship in philosophy*. The immediate form of partisanship in philosophy is the struggle between the lines of materialism and idealism, the watershed between which is determined by the approach to the fundamental question of philosophy, namely, the primary nature of matter or consciousness, of the material or the ideal. This struggle has been going on ever since the emergence of philosophy. Modern philosophy is just as much imbued with partisanship as it was two thousand years ago. But, Lenin said, behind the struggle of various philosophical schools and trends one should always discern the struggle of parties in philosophy, "a struggle which in the last analysis reflects the tendencies and ideology of the antagonistic classes in modern society".¹ That is the key to the Leninist understanding of partisanship in philosophy.

The class role of modern bourgeois philosophy, we might note, boils down to the following basic objectives:

first, to justify and substantiate the "everlasting" and "just" nature of capitalist social relations, and, in the final analysis, to exonerate the domination of capital, and

¹ V. I. Lenin, *Collected Works*, Vol. 14, p. 358.

exploitation, and to substantiate the fairness and expedience of the capitalist way of development for all countries, including those newly freed from colonial rule;

second, to substantiate and vindicate the aggressive foreign policy of monopoly capital, to justify racism, colonialism and neo-colonialism, and, specifically, the "historic mission" of U.S. imperialism in respect of the peoples of other countries and continents;

third, to exonerate and "theoretically" substantiate clericalism in the ideology and policy of the modern bourgeoisie, its subservience to fideism, and to justify the religious outlook in all its forms.

fourthly, to "refute" dialectical and historical materialism, the philosophy of communism, this being the express purpose of all modern bourgeois philosophy, and to supply theoretical arguments to all bourgeois ideologists for their struggle against the revolutionary Marxist-Leninist teaching.

This means that in fighting the various trends and schools of modern bourgeois philosophy, the Marxists-Leninists must always evaluate the objective role played by these trends and schools in defending and substantiating the ideology and policy of monopoly capital. It is a distinctly reactionary role, because bourgeois philosophy does its utmost, and employs all possible means, to justify the existence of the historically doomed and outdated social system. It is necessary, therefore, to go beyond "purely" theoretical discussions with bourgeois philosophers and sociologists, and to lay bare the social and class role and purport of their views. We must remember Lenin's important observation that the reactionary substance of bourgeois philosophy is evident in all matters; "as in epistemology, so in sociology," he said, "the same reactionary content under the same flamboyant signboard".¹

In the present acute struggle between bourgeois and communist ideology, bourgeois philosophers do not confine themselves to merely speculative abstract problems that have no bearing on life, though there is still some evidence of this approach, so widespread among many bourgeois philosophical schools only a few decades ago. But the main

¹ V. I. Lenin, *Collected Works*, Vol 14, p. 322.

trend today is entirely different, for the bourgeois philosopher is now determined to intervene in current social affairs and be what Dewey described as the intellectual tool that could settle the pressing political and moral problems of the times. This trend is indeed gaining prominence in modern bourgeois philosophy.

Take the problems bourgeois philosophers treated as focal at the last few international congresses of philosophy. The relationship of man and nature, and of freedom and values, were the main problems discussed at the Venice Congress in 1958. The latter problem inevitably touched on the questions of democracy, freedom, politics and the state, which were an object of heated discussion between the Marxist and bourgeois philosophers. The focal problems at the Mexico Congress in 1963 were: the critique of our epoch and the problem of man. Bourgeois philosophy is fast becoming an active force in the struggle of monopoly capital against the ideas of Marxism-Leninism, socialism and communism. This is what prompted the bourgeois philosophers to pick out the key problems of our time. Naturally, they gave their own interpretation of these problems and expressed the interests of their own class, striving to give the masses a "global orientation" entirely accordant with the purpose of reinforcing the domination of the monopolies.

The problems of man and humanism are of special importance in the current ideological struggle. It should not surprise anybody, therefore, that bourgeois philosophers speak so much about them at present. There was a time, during the fight against feudal ideology, when bourgeois humanism was progressive. But in our day it is a false humanism. It serves the monopoly bourgeoisie as a screen for its man-hating ideas, for racism and chauvinism, and for its policy of colonialism and aggression. Moreover, the contemporary bourgeoisie dreads the ideas of the genuine communist humanism, which prevail in the socialist countries and exert an immense force of attraction on the masses of all countries and continents. It is for this reason that its ideologists seek to pervert the humanistic substance of socialism and communism, slander the peoples of the socialist countries and portray the capitalist world as a "free world", a world of "thriving individuals". The

problems of man and humanism, which are fundamental in philosophy, are thus one of the main areas of struggle between the communist and bourgeois ideologies.

There are bourgeois schools which deal specially with the problem of man and make it the core of their philosophical systems. This is true, first and foremost, of the German and French existentialism, of the American and French personalism (which make the person the focal point of their examinations) and of the so-called philosophical anthropology widespread in some West-European countries, which professes to be a "philosophical science of man". It is the purpose of all these doctrines to substantiate the modern bourgeois pseudo-humanism, to persuade the masses that the "free Western world" is "humanitarian", and to disguise and justify the imperialist purport of the policy and ideology of the monopoly bourgeoisie. The same goals are also pursued, in the final analysis, by the modern "Christian humanism" preached by a number of religious philosophical systems, particularly neo-Thomism, the philosophy of the Catholic Church.

All this indicates that modern bourgeois philosophy is taking an increasingly active part in the ideological struggle of the modern bourgeoisie against the Marxist outlook, the revolutionary ideas of Marxism-Leninism.

Deep-going study and knowledge of Marxist-Leninist philosophy is, therefore, of immense importance in the current ideological struggle.

George William Frederick Hegel, the great German dialectician, defined philosophy as an epoch encompassed by thought. This is a very precise definition, though, needless to say, it does not apply to every philosophy. Most philosophical schools and trends give a distorted or one-sided view of reality. A philosophy of the epoch is genuine only if it produces a truly objective conception of its essence and the laws of its development, and provides scientific answers to the key problems of life expressing the vital interests of the foremost social classes and of progressive humanity as a whole. *Dialectical and historical materialism, the philosophy of Marxism-Leninism, is just such a philosophy of our epoch.*

In Antiquity, philosophy represented love of truth and wisdom. It was a symbol of man's knowledge of the world

in general, and strove to slow the way to such knowledge. Ever since its inception, a struggle has proceeded between the scientific materialist outlook and the pseudo-scientific idealist and religious outlook. This made the historical development of philosophical ideas highly contradictory and complicated. Eminent philosophers of all the ages developed many profound and valuable ideas and worked out many important and interesting problems. But it was not until the emergence of the proletariat, the new social class, that its leaders produced a truly scientific philosophy. The Marxist philosophy as a scientific system is a logical fusion of the scientific materialist outlook and the scientific dialectical method. This fusion was achieved in world philosophy for the first time and enabled Marxist philosophy to become the scientific philosophy of the modern epoch, to express its contradictory essence and to define the decisive trends of development in scientific concepts and categories.

Marxism Leninism is a rich and multifarious system encompassing the theory of scientific communism, an economic doctrine, and the philosophy of dialectical and historical materialism. The latter is the *theoretical foundation of the whole of the revolutionary Marxist-Leninist system*.

The economic theory of Marxism Leninism, which lays bare the essence of the economic relations of modern society, the determinative economic contradictions and the laws governing social development, is based on a dialectico-materialist analysis. Marx's *Capital*, which reveals the acute contradictions of the capitalist economy, is the greatest and most profound philosophical analysis of the economic relations of capitalism. The logic of *Capital* is a logic built on the denuded contradictory essence of bourgeois society. Lenin's *Imperialism, the Highest Stage of Capitalism*, contains a profound dialectical analysis which demonstrates the economic contradictions of the new epoch and its intrinsic contradictory essence. Its principles are employed by the Communist Parties today in their analysis of the economic contradictions of modern capitalism, this being indispensable in working out the correct strategy of struggle.

The whole edifice of scientific communism rests on a

materialist understanding of history and a dialectical analysis of the laws of its development. The theory of scientific communism proceeds from a philosophical analysis of the objective laws of social development, which lead of historical necessity to the downfall of capitalism and the victory of socialism. Philosophical analysis, made most deeply in this field by Lenin, is fundamental for determining the ways and methods of building socialist society, as specifically expressed in Lenin's plan for the construction of socialism, which is of world-wide significance.

On the basis of the principles of Marxist-Leninist philosophy, the Communist Party of the Soviet Union has produced a scientific analysis of the new historical period, the period of the gradual transition from socialism to communism. This has enabled it to work out the practical ways and means of realising the Leninist ideas of communist construction. The programme for the construction of communism in the U.S.S.R. is neither a dream nor utopia. It is a well-grounded document of modern scientific communism, providing a philosophical, political and economic substantiation for the building of communist society. It is based on a scientific analysis of the objective dialectical laws governing society's advance to communism, an analysis of the new nature of contradictions, which differ radically from the contradictions of capitalism. This enables us to find the right way of resolving them and thereby fulfilling the tasks of communist construction. At present, all the work of the C.P.S.U. is based on a scientific and precise analysis of reality and of the main trends of its development. The basic principles of Marxist-Leninist philosophy are thus properly applied in resolving crucial practical matters.

When applying and realising the Leninist ideas of socialist and communist construction, it is essential to consider closely the concrete conditions and national peculiarities of the country or group of countries concerned. Yet the key Leninist ideas apply in principle to all countries embarking on socialist and communist construction. These ideas offer the prospect of effective struggle for a new society. They equip the working class with a powerful ideological weapon and show it how to mobilise the energy and resources of all working people in the

struggle for socialism and communism. The Leninist ideas of struggle for revolution and socialism are equally valid for the peoples of countries that have freed, or are freeing, themselves from colonial rule. They face a choice of ways of development. What road they must pick, the capitalist or socialist, is clearly indicated by Marxism-Leninism. The vital interests of the masses, genuine social progress and prosperity, and complete and final liberation from all economic, political and cultural dependence on imperialism make the road of socialist development historically necessary for all countries. The revolutionary Marxist-Leninist philosophy, the theoretical foundation of the scientific socialism of Marx, Engels and Lenin, the only correct socialist teaching, offers a profound and conclusive substantiation of this necessity. The new historical features and specific ways followed by various countries in their advance to socialism are the concrete foundation of the development, enrichment and finalisation of the theory of scientific socialism, but all its basic ideas and principles remain valid and determinative. The role of Marxist-Leninist philosophy in substantiating and developing the ideas of scientific socialism on the basis of the new historical experience of the peoples is thus of supreme importance.

The Marxist-Leninist philosophy makes a scientific analysis of the laws governing the development of human society; it bares the objective dialectic of the contradictions of the modern epoch of the world wide transition from capitalism to socialism; it supplies the Communist and Workers' Parties with a scientific analysis of the balance of class forces in each stage of the struggle; it furnishes an all round substantiation of revolutionary strategy and tactics as the science of the proletariat's class struggle; it equips the working class and its Party with a scientific outlook and a scientific method for victorious struggle against all shades and forms of bourgeois ideology, the ideology of social-reformism, revisionism and dogmatism. It is this that shapes the historical, profoundly partisan role of Marxist-Leninist philosophy, which differs radically from the partisan role played by bourgeois philosophy in serving the reactionary classes of modern society.

It is essential to note that Marxist-Leninist philosophy, the outlook of the working class and the Communist

Parties, expresses the tendencies and interests of all progressive mankind in its craving for a better future. For genuine freedom, equality, fraternity and the happiness of the peoples, which materialises historically through the building of socialist and communist society. This adds to the impact of Marxist-Leninist philosophy as an ideological weapon of all the progressive forces of our time in their struggle against reaction.

Dialectical and historical materialism is the revolutionary philosophy of the working class and of all working people. Its critical revolutionary substance fuses organically with its profoundly scientific and objective substance as a philosophical system and as a method. Marxist philosophy is capable of performing its historical mission as a method of revolutionary action precisely because all its principles and all its content are objectively true and objectively scientific. It is this unity of revolutionary partisanship and scientific truth that lends redoubtable strength to Marxist-Leninist philosophy, imparting to it a practical and vital purport.

It follows inevitably from the above that deep and systematic study of Marxist-Leninist philosophy, so intimately associated with the practical struggle of the working class, is one of the most important tasks of all Communist Parties. Maurice Thorez pointed out rightly that "economic and political struggle is indissolubly connected with the struggle in the theoretical plane" and that successful struggle for socialism and progress calls for tireless efforts in exposing "idealism of all forms, ranging from atheistic existentialism to religious mysticism".¹

The part Marxist-Leninist philosophy plays in the revolutionary education of the masses and in combating the corrupting influence of bourgeois ideas is incalculable. Marxist-Leninist philosophy is universal in this respect, for it is necessary to fight bourgeois philosophy and the different forms and varieties of bourgeois ideology in all spheres of spiritual life. This was specifically emphasised by Lenin in his article, "On the Significance of Militant

¹ M. Thorez, *Pour l'unité de la philosophie et de la vie. Le parti communiste français, la culture et les intellectuels*, Paris, 1962, pp. 142-43.

Materialism". Referring to the role played by dialectical materialism in the fruitful development of natural science, he wrote: "It must be realised that no natural science and no materialism can hold its own in the struggle against the onslaught of bourgeois ideas and the restoration of the bourgeois world outlook unless it stands on solid philosophical ground."¹ Lenin noted further that the struggle cannot be successful, unless the progressives master the materialism represented by Karl Marx, that is, dialectical materialism.

* * *

The course in Marxist-Leninist philosophy which follows covers all the main problems of dialectical materialism.

The chief purpose in studying Marxist-Leninist philosophy is to assimilate its principles, its revolutionary dialectical method, and its creative essence which flows from its organic ties with the scientific cognition of the world and with the practical struggle of the working class and its Party. It is highly important, therefore, to consider the ideas and the content of the philosophical works of the Marxist-Leninist classics in close association with the ideological struggle of the modern epoch.

¹ V. I. Lenin, *Collected Works*, Vol. 33, p. 233.

Chapter One

EMERGENCE OF MARXISM—A REVOLUTION IN PHILOSOPHY

Time and again in the history of philosophy a new philosophical doctrine laid claim to being the sole dispenser of the truth and professed to have finally solved all the secrets of being and cognition.

Hegel's philosophical system, for example, is known to have commanded great prestige. Yet it eventually lost most of its adherents, and its influence has long since declined sharply. A similar fate befell all the philosophical schools and doctrines of the pre Marxian period and the later, far less important bourgeois doctrines, such as neo-Kantianism, empirio-criticism, and Bergsonianism.

This is not all. Throughout the 20th century, bourgeois philosophers have been trying to present their doctrines and systems as fundamentally "novel", even "revolutionary", claiming to have worked "a revolution in philosophy".

Such claims were only recently made by the well-known American pragmatist, John Dewey, who announced that he had completely reconstructed philosophy. The modern positivists, too, have twice proclaimed "revolutions in philosophy"—the first time in Cambridge in the 1930s, and then in London in 1956. The French personalists led by Emmanuel Mounier speak of a "personalist revolution" in philosophical thought. Bertrand Russell compares his philosophical views with Galileo Galilei's feat in science. Yet despite these pretensions, the bourgeois ideologists have accomplished no revolutions whatever.

Inevitably, after a short-lived spell of popularity, all modern bourgeois philosophical schools lose their adherents, who begin to cool off and declare the views of their former idols either completely or partially wrong

The reason for this is obvious. All modern bourgeois philosophical doctrines are based on the unscientific idealist world outlook. They lack a scientific method. Furthermore, the bourgeoisie is no longer able to develop progressive philosophical or social ideas; it shies away from a scientific cognition of reality and the inexorable laws of history, which spell its doom and the victory of the working class, of socialism and communism. The ideologists of the historically doomed class are congenitally incapable of producing any new, fresh, progressive ideas or doctrines. This is why revolutions are inconceivable in modern bourgeois philosophy despite all the declarations and promises of the bourgeois philosophers.

Dialectical and historical materialism, the Marxist-Leninist philosophy, is the first great philosophical system in history whose authority and following have been growing continuously since its emergence, and whose content is borne out and enriched by every advance of human practice and science.

Marxist philosophy did not arise in isolation from past and contemporaneous philosophical thinking. All the positive elements of earlier philosophies were taken into account and used by the founders of Marxist philosophy. "The history of philosophy and the history of social science," Lenin wrote, "show with perfect clarity that there is nothing resembling 'sectarianism' in Marxism, in the sense of its being a hidebound, petrified doctrine, a doctrine which arose *away from* the high road of the development of world civilisation. On the contrary, the genius of Marx consists precisely in his having furnished answers to questions already raised by the foremost minds of mankind. His doctrine emerged as the direct and immediate *continuation* of the teachings of the greatest representatives of philosophy, political economy and socialism."¹

Marxist philosophy is the product and consummation of the many centuries of the development of world philosophical thought. In a sense, it crowned the work of all the earlier philosophers who applied themselves to developing a materialist understanding of reality and to

¹ V. I. Lenin, *Collected Works*, Vol. 19, p. 23

grasping the essence of the dialectical nature of its laws. At the same time, it ushered in a new epoch, in which philosophical thought developed along truly scientific lines.

The emergence of Marxism signified the emergence of a new philosophy qualitatively different from others, which, in a way, opposes all past and present idealist and metaphysical philosophies. Marxist philosophy was not only the successor and heir to all the rational and progressive elements of the earlier philosophies, but also a *qualitatively new stage in the development of human thought and a true revolution in philosophy*.

Modern bourgeois philosophers are eager to obscure and conceal the profound qualitative difference of Marxist philosophy from all other systems and doctrines. They try to produce the impression that Marxism is just another philosophical system.

This does not mean that bourgeois philosophers devote scant attention to Marxism. On the contrary, they are churning out prolific literature against Marxist philosophy. But they say very little about it in their general courses, in order to create the impression that Marxist philosophy is an insignificant trend, lacking in importance and originality.

In fighting Marxism, bourgeois philosophers go out of their way to obscure the revolutionary nature of the change worked by Marxism in philosophy and to hide the fact that Marxist philosophy has a new, profoundly scientific content—something all previous and, especially, all contemporaneous schools of bourgeois philosophy, have never had.

Bourgeois philosophers falsify the actual content of Marxist philosophy. They ascribe to it propositions it does not contain, and deny those that it does. Widespread in bourgeois writings is the contention that Marxism is a variety of vulgar "economic materialism", that is, a philosophy which considers the ideal side of human activity as a passive reflection of the economy and recognises only economic factors as the movers of history. It will be demonstrated here that these contentions are false.

Another widespread trick is to present Marxism as a materialist version of Hegel's philosophy, a purely logical effect of Hegel's philosophy reduced to its antithesis.

There are many other devices, designed to distort the essence of Marxist philosophy. Contentions are made that Marxism revolves round the same ideas and problems as are raised by many of the bourgeois doctrines, or that Marxism is no more than a historiography borrowed from Saint-Simon, or only a logical application to political economy and sociology of the postulates of Darwin and Spencer. Attempts are also made to include the Marxist philosophy in the philosophico-sociological systems of bourgeois thinkers. This is done to rob Marxist philosophy of its scientific content and to destroy its revolutionary make-up and purport.

All this is done by the bourgeois ideologists in order to put Marxist philosophy on the same footing with their own philosophical systems. What they want is for Marxism to be viewed as a common or garden philosophical or socio-political trend that does not rise above run-of-the-mill bourgeois philosophical conceptions. Many bourgeois writers who "set forth" Marxism in this fashion contend that Marxism has become a "permanent acquisition of bourgeois philosophy" and has thereby ceased to be an independent philosophical school.

All this is, in effect, an indication of the bourgeoisie's dread of the power and prestige of Marxism and its philosophical doctrine, and of the impotence of bourgeois ideologists in face of the genuinely scientific philosophy of dialectical and historical materialism, which is a mighty theoretical weapon in the practical revolutionary struggle of the working class and all the working people. Hence their attempts to falsify Marxism and its philosophy, to emasculate them and minimise their importance. But these attempts are entirely groundless and conflict with the actual content of the revolutionary Marxist philosophy, created in the 1840s by Marx and Engels, the leaders of the world proletariat, developed by Lenin and today serving as a great spiritual force of all progressive mankind.

The great qualitative difference of Marxist philosophy from all preceding philosophy evidences that the emergence of Marxism was a revolution, a qualitative leap in the development of world philosophical thought.

§ 1. The Historical Premises for the Emergence of Marxist Philosophy

Before delving into the content of the revolution in philosophy brought about by Marxism, let us look into its premises.

The scientific Marxist world outlook in general, and the Marxist philosophy in particular, made their appearance because they had become a necessity: the historical development of society and the rise of certain social forces set mankind the relevant task of apprehending the new phenomena. On the other hand, mankind had by then accumulated the necessary store of knowledge; the scientific and theoretical premises were ripe, creating the objective opportunity for answering the questions raised by the course of history.

It follows, therefore, that Marxist philosophy was not a chance discovery. It was a natural development flowing from the advance of scientific thought.

The Socio-Historical Premises

The Marxist philosophy emerged in Europe in the 1840s, because the social conditions of the time imperiously required a new philosophy and offered an objective opportunity for its emergence.

It is the rise or existence of a social class which, in conformity with its class interests, requires a definite theoretical understanding and philosophical interpretation of the historical process and of its own role in this process, coupled with the sum of the historical conditions that gave birth to this social class and determine its role in the given stage of history, that constitute the social premises of a social theory or philosophy.

To understand the social premises for the emergence of Marxist philosophy, we must therefore identify the social class (and the historical conditions of its rise and existence) whose interests required this new philosophical world outlook.

The history of Europe in the first half of the 19th century was highlighted by the final victory of the capitalist mode of production, which consolidated not only the

economic, but also the political positions of the bourgeoisie in the chief European countries.

The bulk of the material wealth in the European countries was already being produced then by capitalist enterprises. Goods produced under conditions of pre-capitalist relations of production—in the workshops of artisans or in feudal manufactories—had disappeared almost entirely from the market. Europe was beginning to exist chiefly on the labour of wage-workers employed at capitalist enterprises and using implements of labour owned by the opposite class of capitalist proprietors.

The new capitalist relations of production were still highly active—especially in comparison with the preceding feudal relations of production—in stimulating the development of the productive forces. The capitalist class craved for wealth and power, and its various sections jockeyed for supremacy. Scientific knowledge expanded rapidly to meet the needs of the ascendant capitalist economy and technology. Capitalism, as we see, was on its way to final economic and political victory over feudalism in Europe and other parts of the world.

In many of the European countries the period of bourgeois revolutions was gradually ending and history posed the question of the road social development would follow thenceforth. As is always the case in history, the answer was materialising within the then dominant system—the capitalist system.

The antagonistic nature of the relations between the chief classes of capitalist society—the bourgeoisie and the proletariat—was becoming more and more distinct at the time. The contradictions of capitalism were growing more acute. The people were awakening to the class limitations of the slogans of liberty, fraternity and equality brandished in the bourgeois revolutions. They became aware that bourgeois equality, even though it abolished the class privileges of the aristocracy and clergy, had ushered in a new economic and social inequality.

In the 1830s and 1840s the working class of Europe was beginning to realise that capitalism had substituted one form of exploitation for another. The first independent proletarian actions against the bourgeoisie occurred at this time. The working-class struggle became less a fight against

the particular excesses of capitalism and of individual capitalists, as was the case until then, and more a fight against the domination of the bourgeois exploiters as a class. It turned into a political struggle.

A powerful wave of working-class actions was evoked by the sharpening of contradictions between the bourgeoisie and the proletariat due to the first economic crises of the 1820s and 1830s. The risings of French workers in Lyons (1831 and 1834) and of the Silesian weavers in Germany (1844), and the Chartist movement of the British proletariat (1837-48) indicated that the working class was beginning to draw a line between its own interests and those of the bourgeoisie for whose benefit it had fought against feudalism on the barricades of the bourgeois revolutions. It made unambiguous political demands directed against the domination of the bourgeoisie and championed the interests of the masses.

But in its first actions against the bourgeoisie, the proletariat still lacked a clear-cut, positive programme. It opposed exploitation, coercion and disfranchisement, but it did not yet see the main and ultimate goals of its struggle. Although it had come into being many centuries before, the proletariat was then still a relatively young class which had only just started to develop a class outlook of its own. An ideology of the new social class was necessary, and its emergence was inevitable. A teaching was bound to appear in order to furnish an answer to the question of the future of the existing classes of contemporary society, the role and significance of the working class, the goals of its struggle and the further course of human history.

In the circumstances, it was inevitable that ideologists of the working class should appear on the scene of history.

Numerous thinkers endeavoured to determine the place, role and historical prospects of the working class. The first outspokenly bourgeois conceptions appeared, which defined the role of the proletariat as that of a loyal servant of the bourgeoisie for all time. Petty-bourgeois theories, such as that of Proudhon, the French Socialist, reflected the interests of the petty producers. They conceived the utopian prospect that the proletariat would ultimately become a class of petty proprietors within the framework of a petty-bourgeois socialism. This sort of socialism held no

promise of emancipation for the working class, for, actually, it perpetuated capitalist private property relations.

The utopian socialist systems of Henri Saint-Simon, Charles Fourier and Robert Owen date to this period, representing a vehement protest against the poverty and oppression suffered by the proletariat under capitalism. But they offered impracticable alternatives, whose only merit was their championing the interests of the "lower" classes, for they envisaged the reconstruction of society by the joint efforts of all its sections, those of the "upper" classes most of all. The Utopian Socialists believed that a fair social system could be "invented" and that all men could be persuaded to accept it. They produced mental constructions of the ideal society in accordance with their abstract conceptions of humanism and social justice.

However, all these ideas did not reflect the actual situation of the proletariat and failed to show its real role in history, because they were not based on the revolutionary class positions of the proletariat. They were unsound theoretically, because they were built on an idealist conception of history and not on an analysis of the determinative part played by material factors in social development. Hence, their unrealistic, utopian nature and impracticability.

It was Marxism that became the scientific and consistently revolutionary ideology of the proletariat, while its philosophy—dialectical and historical materialism—became the theoretical groundwork of the Marxist world outlook.

It will be recalled that bourgeois philosophy, too, was conceived as the world outlook of an ascendant class and differed from the then dominant feudal ideology. But the bourgeoisie did not seek the abolition of all exploitation. All it wanted was to substitute one form of exploitation for another, and to win political power. In the feudal society, the dominant class was opposed by a new, rising class—the bourgeoisie—which was also in essence an exploiting class and willing, at every propitious juncture, to seek political and ideological compromise with the feudals in the confrontation with the revolutionary masses.

For this reason, the bourgeoisie did not want a philosophy that would probe the essence of social phenomena, for this would lay bare the exploiting nature, the contra-

dictions and injustices of the bourgeois system. This is why all bourgeois doctrines and theories, including the most progressive, were at best an approximation of the truth, but not the truth itself.

Under capitalism, the situation has changed. The bourgeoisie, now the ruling class, is opposed by a class which is fighting not for a different form of exploitation, but for the emancipation of all working people in order to end all exploitation of man by man. This class—the proletariat—stands to gain from discovering and cognising the objective truth, from exposing the contradictions of capitalism, demonstrating the true face and role of the bourgeoisie, laying bare its exploitative nature and charting the road to a new, truly free and fair social system for all mankind. This is why the proletarian philosophy is not inimical to the truth and why it is a genuine philosophy that bares the true essence of the surrounding world and shows the way to its radical reconstruction.

Thus, the socio-historical premises for the emergence of Marxist philosophy and its revolution in philosophy are chiefly the following:

firstly, the sharpening and deepening of all the basic contradictions—economic, as well as political and ideological—of capitalist society;

secondly, the formation and consolidation, as a result of the victory and strengthening of the capitalist mode of production, of a new social class—the proletariat—which emerged on the social scene as an independent political force;

thirdly, the fundamentally different role of the proletariat (as compared with all the earlier classes that played a progressive role in the various stages of history), which does not wish to substitute one form of exploitation for another, and seeks to end all exploitation by revolutionary methods and to build a socialist society.

Theoretical Premises

By the time Marxist philosophy was conceived, mankind had accumulated a sufficient store of theoretical knowledge in various fields of science to create a truly scientific philosophy. In other words, the founders of Marxism were

able to perform the Herculean task of elaborating a new, truly scientific world outlook, because important progress had been achieved by then in the natural, social and philosophical fields of knowledge, which they summed up and processed to discover the scientific, dialectico-materialist laws of Marxist philosophy.

The theoretical premises for the emergence of Marxist philosophy essentially constitute three main groups of scientific achievements

- a) progressive socio-economic doctrines;
- b) the most outstanding philosophical ideas;
- c) the great discoveries in the natural sciences.

Progressive Socio-Economic Doctrines. A correct understanding of social phenomena and of the laws governing the development of human society is vital for the elaboration of scientific philosophical views. This attaches extremely great importance to the role of progressive socio-economic doctrines and theories.

What is important in this context is that the discoveries in the concrete social sciences—political economy, law, history, etc.—which served as a basis for Marxist philosophy, were largely made by the founders of Marxism in their capacity of economists, historians, jurists, etc. In practice, the work done by the founders of Marxism was a combined process of defining philosophical ideas and probing the essence of various social phenomena. Their philosophical conclusions were moulded by their concrete study of law and political economy, and these, as a philosophical method of cognition, in turn, governed their further research.

Marx, who worked for the *Rheinische Zeitung* in the early 1840s, made a study of the concrete social contradictions, which led him to the conclusion that Hegel's idealist philosophy erred in its assessment of the role of the material and ideal elements. Marx concluded that the press, state, law and other social institutions were neither manifestations nor embodiments of a universal spirit, but a reflection of definite and distinct material interests of the classes in power. Marx inferred the primacy of the material element over the ideal—a conclusion he later clothed in the classic definition of the determinative role of social being in relation to social consciousness. Lenin

noted rightly that "here we see signs of Marx's transition from idealism to materialism and from revolutionary democracy to communism".¹

At about the same time, when making his study of the condition and struggle of the workers in England, Frederick Engels perceived the determinative role of material being in the life of man. He set forth his ideas of the period in a splendid book, *The Condition of the Working Class in England* (1845), which is a profoundly philosophical work.

The Marxist classics performed a vast amount of work in laying the foundations for philosophical generalisations in social science. Great credit also goes to other thinkers and scientists. Their discoveries were closely and thoroughly studied by Marx and Engels, who built their teaching on all the uppermost results of world sociological thought.

First and foremost, the founders of Marxism made use of the works of the classics of English political economy, primarily the works of Adam Smith and David Ricardo, who had initiated the labour theory of value. Their ideas that value is created by labour (and not by the interplay of supply and demand in the market) and embodies socially necessary labour, were the point of departure for the founders of Marxism in developing their truly scientific theory of value, which became one of the elements of the scientific apprehension of the objective socio economic laws so necessary for a correct philosophical analysis of the development of human society.

The ideas of the great Utopian Socialists, too, played a certain part in the moulding of the Marxist view of society, and thereby in creating the theoretical premises for the emergence of Marxist philosophy. Their ideas had a bearing not only on the elaboration of the propositions of scientific socialism, but also on the apprehension of human society and the laws governing its development, and of its contradictions. The Utopian Socialists made the important discovery that the development of history was law-governed and progressive, and demonstrated a number of highly pertinent contradictions in capitalist society, although, generally speaking, they took an idealistic view of social phenomena.

¹ V. I. Lenin, *Collected Works*, Vol 21, p 80.

In working out their scientific, materialist conception of history, Marx and Engels also drew on the valuable ideas and concrete results of the research done by the leading French Restoration historians, François Guizot and François Mignet, who investigated the class structure of bourgeois society, endeavoured to evaluate historical events from the standpoint of the class struggle and to define the role of property, that is, material relations in social affairs.

The subsequent development of the philosophical views of Marx and Engels was affected, too, by the research of Lewis Morgan, the U S ethnographer and historian, who took a materialist view of the history of primitive society, produced its periodisation and collected prodigious concrete material on the history of tribal society.

All this suggests the following conclusion:

The most important theoretical premise for the emergence of Marxist philosophy was rooted in the achievements of pre-Marxian social thought, represented chiefly by the works of the classics of English bourgeois political economy, the ideas of French utopian socialism, and the concrete investigations of bourgeois scholars in the fields of history, ethnography and other social sciences

Outstanding Philosophical Ideas. Marxism was able to perform its revolution in philosophy not only because it based itself on the concrete data of the social and natural sciences, but also because it made critical use of all the outstanding achievements of earlier philosophical thought, of which the ideas produced by German classical philosophy in the late 18th and early 19th centuries had the greatest impact. It was Immanuel Kant (1724-1804) who stood at the source of classical German philosophy and George William Frederick Hegel (1770-1831) who was its most eminent exponent.

In Hegel's philosophy reality appears as an integral historical process of dialectical origination embracing nature, society and human thought. Although Hegel builds on idealist premises, his exposition of the development of the absolute spirit presents the dialectic of material reality. His categories of the absolute spirit are really categories of material reality "turned upside-down". Lenin observed that Hegel had divined the dialectic of things in the dialectic of ideas.

Hegel's dialectics, its rational content, was the summit of pre-Marxian philosophical thought, and Marx and Engels made full use of it, in a critical appreciation, for their materialist dialectics.

The philosophical ideas of Ludwig Feuerbach (1804-1872), specifically his materialist critique of philosophical idealism and the Christian religion, contributed greatly to the emergence of Marxist philosophy. In his *Ludwig Feuerbach and the End of Classical German Philosophy* Engels wrote about the "liberating effect" of Feuerbach's philosophy, which had helped him to break loose from Hegelian idealism, under the influence of which Marx and Engels had been in the early period of their philosophical development.

Feuerbach reinstated materialism in the spiritual life of contemporary German society, and this had a strong bearing on the development of the philosophical views of Marx and Engels. He showed that thought was the product of a material organ, the human brain, and that therefore it was not matter which was the product of ideas, but the ideal which was the result and function of the material element. However, Feuerbach did not grasp the dialectical nature of the material world and rejected dialectics of Hegel together with his idealism. Besides, Feuerbach's materialism was passive and contemplative and, as Marx noted, he did not comprehend the meaning of "revolutionary", "practical-critical" activity.¹ This is largely the reason why Feuerbach took an idealist view of the history of society.

The development of the dialectico-materialist outlook of the founders of Marxism proceeded under the influence of the materialist and dialectical tradition in the history of philosophy. Marx and Engels rated highly the philosophical works of the French materialists Diderot, Holbach, Helvetius, Lamettrie and Robinet. Likewise, they appreciated some of the progressive ideas advanced by the British materialists Bacon, Hobbes and Locke, the Dutch materialist Spinoza, and other great philosophers.

To sum up, it was an important theoretical premise for the emergence of Marxist philosophy that *German classical*

¹ Marx and Engels, *Selected Works*, Vol II, Moscow, 1962, p. 403.

philosophy had produced dialectical ideas which, coupled with the dialectical and materialist ideas of all past philosophy, the founders of Marxism drew on in creating their philosophy of dialectical materialism.

The Impact of the Great Discoveries in Natural Science. Philosophy could not be a genuine study based on a scientific foundation rather than conjecture, until the concrete study of the various aspects of reality attained a definite level of knowledge of the most essential processes at work in the three principal spheres of the objective world: nature, society and thought. This is why so much importance attaches to the major achievements of the natural and mathematical sciences in the development of the philosophy of dialectical materialism.

Until the beginning of the 19th century, the natural science lacked the adequate stock of correct conceptions about the more important and essential aspects of natural processes. This led to the pre-eminence in philosophy of metaphysical views on nature as an aggregate of congealed, immutable and isolated things and phenomena. On the other hand, it impeded conclusive substantiation of the materialist understanding of the world.

The following three great discoveries had the greatest bearing on the scientific understanding of the key processes working in nature—that of the conservation of energy, of the cellular structure of plant and animal bodies, and Darwin's theory of the origin and development of the species. Also prominent were the Kant-Laplacean cosmogonic theory, the historical geology of Lyell and, still earlier, the discovery of differential and integral calculus.

What, briefly, is the philosophical purport of these discoveries? What is their part in the formation of dialectical materialism?

First. The law of the conservation of energy, a vital aspect of the universal law of the conservation and transformation of matter and motion (first formulated in general outline by Mikhail Lomonosov, the Russian scientist, in the 18th century), reveals the intrinsic connection in nature between the various types of the motion of matter—mechanical, thermal, electromagnetic, etc. It shows how one form of motion is transformed into another, describes their qualitative differences, and their interdependence.

Consequently, this law demonstrates the dialectical character of natural phenomena. It was, therefore, highly pertinent to the development and substantiation of dialectical materialism, and continues to be so today.

Second. The cellular structure of living matter discovered in the 1830s established that the material nucleus, the organic cell, was the determinative factor governing the inner basis and structure of the plant and animal world. This revealed the intrinsic unity of the highly diverse world of living matter with its great variety of plant and animal life, thus again corroborating the dialectical view of nature as a single and integral whole.

Third. In the mid-19th century appeared the great evolutionary theory of the English scientist Charles Darwin, whose forerunners were Lamarck in France, Goethe in Germany and Rulye in Russia. Darwin's theory, whose philosophical impact Lenin emphasised, elucidated the universal process of development and change in living nature. "Darwin put an end to the view of animal and plant species being unconnected, fortuitous, 'created by God' and immutable," Lenin wrote, "and was the first to put biology on an absolutely scientific basis by establishing the mutability and the succession of species."¹

Darwin's theory shows the development of living nature to be a dialectical process of continuous change, of the origination of new species of animals and plants, of their mutation and adaptation to the environment, which itself undergoes continuous change and development. This theory is infused with dialectical ideas and lays bare the objective dialectic of the development of living nature. It has a strong bearing, therefore, on the philosophy of dialectical materialism.

Many other major discoveries and achievements of natural science also revealed, from various other angles, the dialectical character of the laws of nature, the wealth and variety of forms and types of matter in motion, and provided added evidence of the material unity of the world. As we see, natural science had progressed far enough by the mid-19th century to make it possible to define the basic laws governing the development of nature, to demon-

¹ V. I. Lenin, *Collected Works*, Vol. 1, p. 142.

strate its internal connections, to lay bare its contradictions, and thereby apprehend the true essence of natural phenomena. Precisely this view of nature is the *dialectico-materialist* view of nature.

These, briefly, are the social and theoretical premises for the emergence of Marxist philosophy.

To sum up, the philosophy of dialectical materialism rests on a solid scientific foundation. This means that it is itself *profoundly scientific*, because it is a *focalisation* of the scientific cognition of both natural and social phenomena and provides an accurate scientific explanation of them from the standpoint of the materialist world outlook and the dialectical method.

Let us now examine the *content* of the revolution worked by Marxism in philosophy.

§ 2. The Content of the Revolution Worked by Marxism in Philosophy

Dialectical and historical materialism, the Marxist philosophy, differs radically from every other philosophy, past and present. It is different, above all, because it emerged as the world outlook of an absolutely new class, singled out by history as the builder of a classless society. The emergence of Marxist philosophy is recognised by its supporters and, obliquely, by its adversaries too, as a revolution in philosophy. To be sure, the enemies of Marxism do not say in so many words that Marxist philosophy has worked a revolution, but the unity with which all bourgeois philosophers fight dialectical materialism is evidence of the fact that they recognise it as a philosophy opposed to all bourgeois and petty-bourgeois doctrines, that is, as an antipode to all "traditional" philosophical thought.

Marxist philosophy differs radically from the rest of philosophy both in historical purport and role, in content and in method of cognition.

The most essential features of the revolution worked by Marxism in philosophy may be summed up as follows:

a) Marxist philosophy became the instrument of the *working class and the broad mass of people for the remoulding of the world* in their struggle against exploitation, for

the revolutionary reconstruction of society in accordance with the scientific projection of the future socialist and communist system.

b) Marxist philosophy was the first to subject *all spheres of being*—nature, society and thought—to a scientific philosophical analysis from the standpoint of *materialism* and the *dialectical* method of cognition.

For the first time in world philosophical thought a materialist view of history was formulated, whereby the study of the laws of human society was put on a scientific basis

c) Marxist philosophy produced a new, *truly scientific conception of the subject of philosophy*, determined its place in the system of sciences, and established the correct relationship between them

This created a new approach to the solution of the basic problems of philosophy as a science

d) Marxist philosophy was the first to establish in scientific terms that *philosophical knowledge is historical by nature and dependent on historical conditions*, and that *it is connected with the development of men's social practice and the scientific cognition of the world*.

Marxist philosophy is itself a truly creative philosophy, and develops continuously on the basis of practical experience and scientific progress

Let us now look at these vital propositions which demonstrate the qualitatively new character of Marxist philosophy, as compared with all other philosophical doctrines

Philosophy as an Instrument of the Working Class
and the Masses in the Struggle for the Revolutionary
Reconstruction of Society

Materialist philosophy has always expressed the interests of progressive social classes and groups. In Ancient Greece, the materialist philosophy of Democritus represented the aspirations of the slave owning democracy and opposed the idealist philosophy of Plato, who represented the interests of the reactionary social forces, notably the landed aristocracy. The materialist philosophers of the period of the bourgeois revolutions, too, were bearers of an ideology

progressive for its time and the standard bearers of all progressive forces opposed to feudalism.

However, it was Marxist philosophy that first *consciously and consistently expressed the interests of the broad mass of people, and above all those of the working class as the most progressive and revolutionary class in history.*

This central idea about the deep-going connection between philosophy and the revolutionary working-class struggle was forcefully expressed by Marx in one of his early works, the *Introduction to A Contribution to the Critique of Hegel's Philosophy of Right*, where he described the proletariat as the *heart* of the contemporary liberation movement, and philosophy as its *brain* "As philosophy finds its *material* weapon in the proletariat," he wrote, "so the proletariat finds its *spiritual* weapon in philosophy."¹ It is the proletariat that is the true bearer of revolutionary philosophy, Marxist philosophy.

Having identified itself with the struggle of the proletariat and all working people, Marxist philosophy became the world outlook and theoretical foundation of the political programme of the working-class parties. Today, there are eighty-eight national Communist and Workers' Parties who regard Marxist philosophy as the basis of their political doctrine. Their total membership surpasses 46,700,000, all of whom are active exponents and propagandists of Marxist philosophy. Gus Hall, a leader of the Communist Party of the United States, notes rightly that the communist philosophy is one of the most discussed philosophies in America and the whole world.²

The peoples of the countries comprising the socialist camp, populated by more than one-third of the human race, are working for a new society under the Marxist banner.

What other philosophy, old or new, can compare with Marxism for its historical role, the spread of its ideas and its practical results?

Marxist philosophy, whose purpose it is to reconstruct the world in the interests of the labouring classes, has become a weapon of the masses and the proletarian political parties in the struggle against tyranny and ex-

¹ Marx and Engels, *On Religion*, Moscow, 1957, p. 57.

² *Pravda*, December 9, 1962.

plottation, for emancipation from all social and national oppression, and for the creation of a genuinely free socialist and communist society. This is the source of the world-historical significance of Marxist philosophy, under the banner of which progressive mankind, headed by the working class and its Communist Parties, is waging a determined struggle against all the reactionary forces of our time, for the realisation of the great communist ideals all over the world.

This is the foremost basic difference of Marxist philosophy from all the other philosophical systems and doctrines, which, to use Marx's phrase, strove at best to explain the world, whereas the object is to alter the world.

The Dialectico-Materialist Conception of the Surrounding World.

The Development of Historical Materialism

Before the emergence of Marxism, no philosophy was able to attain a conclusive *scientific philosophical understanding* of all the phenomena of the surrounding world—of nature, society and thought—in their deep-going organic unity.

Until Marxism appeared, a monistic conception of the surrounding world was postulated only in idealist philosophical systems, that is, from the standpoint of an unscientific world outlook, although admittedly some of these systems were based on the dialectical method of cognition.

As for the materialist philosophical doctrines, their monism was limited to just one sphere of material being, the sphere of natural phenomena. When it came to social phenomena, to social being, all past philosophers, including the materialists, stood on idealist ground. This, as the classics of Marxism-Leninism emphasised time and again, was one of the basic flaws of all earlier materialism.

Take Feuerbach's philosophy. It represents a materialist view of nature, but of nature only. In his conception of social phenomena Feuerbach was a distinctly idealist philosopher. He believed that the chief forces in history were ideal—religion, morality, and love (which he classed as a religious sentiment). Furthermore, Feuerbach spurned dialectics and was a metaphysical philosopher.

The French materialists Holbach, Diderot, Helvetius and others, who had a materialist conception of nature, were likewise idealistic in their view of society. Their chief proposition was that *c'est l'opinion qui gouverne le monde*, which is a clear indication of their idealism in interpreting social phenomena. The elements of materialism in their interpretation of some aspects of social life alter little or nothing in their over-all idealist view. The same applies in principle to the Russian classical 19th century philosophers—Herzen, Belinsky and Chernyshevsky.

To sum up, none of the past philosophical doctrines offered an integral world outlook from scientific materialist positions combined with the dialectical method. This was done for the first time by Marxism, producing a truly scientific philosophy of dialectical and historical materialism.

The emergence of the materialist conception of history, a great scientific discovery made by Marxism, was of signal and paramount significance. It cleared the way for a scientific study of history and a correct appreciation of all social phenomena, which is important not only from the theoretical point of view, but also essential to the working class and its party in working out a scientifically-grounded strategy and tactics. The materialist view of history is of supreme importance in this respect, because it reveals the true substance of social phenomena and facilitates correct definition of goals and tasks in the practical struggle.

Scientific Conception of the Subject of Philosophy

The first correct definition of the subject of philosophy was produced by Aristotle (4th cent. B.C.), who said it was a science about everything that exists, or a science of "the existing as it exists", that is, of the world as a whole. But, naturally, at that early stage only a most general definition could be formulated, owing to the extremely insufficient development of philosophy itself and of the other sciences which were initially included in the general system of philosophical knowledge.

By and large, uncertainty existed in pre-Marxian philosophy as to what philosophy was supposed to study.

This does not mean pre-Marxian philosophy lacked a certain amount of unity as to the subject of investigation. Actually, all philosophical schools and trends concentrated on examining and interpreting phenomena which Marxism later classed correctly in its definition of the subject of philosophy. However, pre-Marxian philosophy had no consistently scientific understanding and definition of the subject. All the same, a few rational ideas on this score should be examined.

Such idealist doctrines as that of Hegel and the philosophies of Leibnitz, Kant, and others, contributed substantially to the elaboration of the subject of philosophy. Hegel's idea that philosophy is the epoch expressed in conceptions was highly valuable. On the other hand, such idealist schools as that of existentialism, the philosophy of Nietzsche, and the like, yielded nothing at all in this respect. Some trends of modern bourgeois philosophy, notably neo positivism, discard entirely such problems as the existence of the external world, the essence of material reality, the laws of its development, and many other problems. This is not merely an over simplification; it impoverishes philosophy as a science.

Materialist philosophy, on the other hand, always strove, to one extent or another, to produce a theoretical understanding of material reality, which it considered as its sole subject. In the history of philosophy, materialist schools sought answers to the question of the essence of the real world, its laws and the cognition of reality. They were on the right road towards appreciating the true subject of philosophy. But lack of a scientific conception of the socio-historical world prevented the old materialists from producing a consistently scientific definition of the subject of philosophy.

It was Marxism that projected the scientific ideas of all preceding philosophy and established that its subject is the essence of the whole surrounding world and the most general laws governing the development of "all material and spiritual things", that is, nature, society and cognition.

On the strength of the aggregate available knowledge, Marxist philosophy established the existence of the more general dialectical laws governing the development of material reality, which are the specific object of study of

materialist dialectics. Drawing on the data of all sciences, Marxist philosophy has invested the key philosophical categories—being, matter, motion, consciousness, truth, unity, essence, appearance, etc.—with scientific content. Conversely, Marxist philosophy equips all concrete natural and social sciences with a scientific materialist world outlook and the scientific dialectical method, which greatly stimulates the fruitful advancement of all science.

Pre-Marxian philosophy contained a wealth of profound and interesting ideas, approximations to the objective truth and brilliant conjectures, all of which were undoubtedly important gains for human thought and a substantive stage along philosophy's road to the cognition of the essence of the world. Yet they did not provide a truly scientific solution of the various problems.

Unlike all earlier philosophy, Marxism furnished a new and original solution for the cardinal philosophical problems which, though raised before, were never properly and consistently solved.

Many of the pre-Marxian philosophers argued the primacy of matter over consciousness, but none of them were able to produce a consistently scientific solution and to spread the principle of materialism to social phenomena, history, ethics, and aesthetics, and to grasp the fact that man is the sum total of social relations. They were unable to understand social being as the material life of society and the production of material wealth, which determines all the other aspects of man's life and all his political and ideological relations.

The idea of development is proclaimed and examined by many philosophical systems, but it was Marxism alone which showed its true content as a reflection of the laws of motion of the whole of objective reality, of all natural and social processes, and not merely as a manifestation of the activity of a mystical spirit which allegedly injected motion into "inert" matter.

Take any philosophical problem—the laws of the development of the outer world, the question of the truth, essence and appearance, form and content, quantity and quality, freedom and necessity, or others. All have been solved by Marxist philosophy in a novel, truly scientific, dialectico-materialist manner. With the emergence of

Marxist philosophy, humanity has gained the opportunity of solving all the cardinal problems of being and cognition in a scientific way.

This is another important aspect of the revolution worked by Marxism in the sphere of philosophy.

The Creative Character of Marxist Philosophy

Marxist philosophy was the first in the history of philosophy to establish the fact that philosophical knowledge is historically conditioned and connected with the development of the concrete sciences and with socio-historical experience. It has in essence become a critical and revolutionary, profoundly creative science, the antipode of dogmatism

Having shown that the essence and the more general laws of the development of the material world, which philosophy discovers through the concrete sciences, were the subject of philosophy, Marxism established the relationship between philosophical knowledge and the level of the scientific cognition of the world as a whole.

The expansion of human knowledge about the surrounding world creates a new basis for philosophical conclusions, for a deeper and more concrete elaboration of the principal propositions and categories of philosophical science. Engels wrote that philosophical materialism had to change with every major discovery of natural science.

Of even more fundamental bearing on the development of scientific philosophy is the development of human socio-historical practice, the revolutionary struggle of the masses and their experience in creating a new social system. Marxist philosophy is developed and enriched on the basis of theoretical generalisations of new historical practice which, in turn, is the ultimate crucible of the correctness of Marxist propositions

Marxism has rejected the view that scientific knowledge is congealed and invariable. Marxist philosophy reflects the world as it is seen by the concrete sciences in synthesis. Since human knowledge embodied in the multiplicity of concrete sciences keeps expanding, philosophical knowledge, too, keeps expanding and deepening continuously.

This is why Marxist philosophy emphasises the objective

truth of its propositions, on the one hand, inasmuch as they have been tested and confirmed by man's historical experience, and points to the historical nature of the content of its propositions and conclusions, on the other.

The Marxist classics described their doctrine not as a dogma, but as a guide to action. This was the first time in the history of philosophy that the authors of a philosophical doctrine admitted that their conclusions were historically conditioned. The founders of Marxism applied to their own doctrine the most important proposition of dialectics, which, as Marx put it, "includes in its comprehension and affirmative recognition of the existing state of things, at the same time also, the recognition of the negation of that state, of its inevitable breaking up," because it regards every historically developed social form as in fluid movement, and therefore takes into account its transient nature not less than its momentary existence; because it lets nothing impose upon it, and is in its essence critical and revolutionary".¹

The critical and revolutionary character of Marxist philosophy is the source of its tremendous force and superiority over all other philosophical doctrines.

The appreciation of Marxist philosophy, therefore, implies not a formal and dogmatic memorising of its propositions, but the ability to see the conformance of its propositions with objective reality and their intrinsic connection with expanding experience and scientific knowledge. Marxism in general, and Marxist philosophy in particular, are antipodal to dogmatism, which is a departure of theory from practice and assumes all its assertions to be immutable and "eternal".

An enemy of dogmatism, Marxist philosophy is never immutable in content, although it guards closely the purity of its basic principles. It keeps abreast of life, absorbing the historical experience of the progressive forces of the times and all the latest achievements in the sciences.

The founders of Marxist philosophy did not regard the philosophical propositions they discovered as the ultimate truth. They worked tirelessly all their lives to develop them. From the outset, Marxist philosophy was ceaselessly devel-

¹ Marx, *Capital*, Vol. 1, Moscow, 1959, p. 20.

oped and improved, encompassing an ever greater volume of information as the basis of its philosophical generalisations. This applies in varying degree to all the propositions of Marxist philosophy.

At an early stage of their scientific research, the founders of Marxism discovered the fundamental proposition of historical materialism that men's ideas depend on their material, above all economic, relations. This idea was expressed in the classic formula, "being determines consciousness". This philosophical conclusion was founded on a study by the founders of Marxism of the economic relations prevailing in the Europe of their day in association with the then existing constitutional, juridical, political and theoretical ideas and the corresponding institutions. Yet they did not regard the elaboration of this proposition as complete and final. As a result of their subsequent examinations of the problem of being and consciousness, they published a number of new works tracing the connection between the material and the ideal in social development on the strength of the latest information provided by the concrete social sciences.

In his *Origin of the Family, Private Property and the State*, for example, Engels adduced new data from history, anthropology and ethnography to infer the origin of various forms of social consciousness, and their corresponding social institutions from the development of men's economic relations. Later, in the 1890s, Engels continued to develop the idea of social being and consciousness and demonstrated that economic relations interacted with other social aspects of man's life. He also examined specially the retroactive effect of ideology and all forms of social consciousness on man's being and on the various aspects of his life, including economic relations.

This is Marxism's approach to its own conclusions and propositions, which develop continuously to keep abreast of life.

The subsequent development of society naturally induced new phenomena in social life and led to new discoveries in the natural and social sciences. Accordingly, Marxist philosophy develops and extends its own propositions, filling them with new content and enriching itself with the new ideas and scientific concepts that reflect the needs and

the content of the new epoch. Lenin did a great deal in this respect. In the contemporary epoch, Marxist philosophy has been, and is being, developed by many philosophers in various countries, among them Antonio Gramsci and Palmiro Togliatti in Italy, Maurice Thorez, Paul Langevin and Georges Politzer in France, Todor Pavlov in Bulgaria, Maurice Cornforth in Britain, Kenjiro Yanagida in Japan, and many others.

Lenin's contribution to the development of Marxist thought has been so great that dialectical materialism, the new philosophy founded by Marx and Engels, has come to be known as Marxist-Leninist philosophy.

At the turn of the century, bourgeois philosophy made a number of attempts to enhance its own influence and reduce that of materialism and dialectics by speculating on the theoretical difficulties in the development of natural science and reverting to the old philosophy of Kant and Hegel. The idealist campaign against Marxist philosophy was stimulated at the time by political reaction, a typical feature of the imperialist epoch.

It was Lenin who creatively developed Marxist philosophy to fit the new historical conditions in the light of the new discoveries in natural science. He crushed the attacks on Marxist philosophy by bourgeois philosophers, philosophical revisionists and metaphysical dogmatists.

Lenin worked out the key propositions and ideas of dialectical and historical materialism on the basis of a profound theoretical generalisation of new social experience and of science. He produced a deep-going analysis and generalisation of the objective laws governing the imperialist stage in the development of capitalism and the great revolutionary movements of the 20th century, demonstrated the historic impact of the October Revolution and showed the essence of the new epoch in world history. At the same time, in *Materialism and Empirio-Criticism*, his main philosophical work, Lenin generalised on the great revolution in natural science which began at the close of the past century, elevating Marxist philosophy to a new level. *Lenin's philosophical ideas are the summit of Marxist philosophy in the contemporary epoch.*

Lenin's ideas are being continuously developed by the Communist and Workers' Parties of the world in their

theoretical and practical activity. This fully applies also to the principal problems of Marxist-Leninist philosophy, which are being advanced not only in special works by Marxist-Leninist theorists, but also in all the policy statements of the world communist movement, which contain few Marxist propositions reflecting the historical epoch of the middle and of the latter half of the 20th century.

The profound analysis of the character and content of the contemporary epoch given in the Moscow Statement of eighty-one Parties is a model of such creative Marxist-Leninist thought. It lays bare a whole series of contradictions in the modern world; the chief contradiction of the epoch—that between socialism and capitalism, the determinative trends in the development of world history as a whole in the present stage, and the opposite trends in the development of the world capitalist system and the world socialist system. This represents a concretisation and development of the problems of *the dialectics of the contemporary epoch and the dialectics of social development*.

The problems of Marxist-Leninist philosophy are being exhaustively and deeply developed through the activities of the Communist Party of the Soviet Union. Its programme documents and the special theoretical and philosophical works of Soviet philosophers elaborate on a wide range of problems of dialectical and historical materialism. The impact of the philosophical ideas set forth in the new Programme of the C.P.S.U. is particularly great.

It will suffice, in this context, to mention the conclusive development of the *problems of dialectics*. This includes the analysis of the character of the contradictions in the period of transition from capitalism to socialism, and of the ways and means of resolving them, which is of practical importance to all countries that have embarked, or are about to embark, on the socialist way. The discovery of the qualitatively new, non antagonistic contradictions of the socialist epoch, elucidated exhaustively in Party documents and the works of Soviet philosophers, is of special importance. This analysis has helped to establish the practical ways and methods of resolving the contradictions of the new, socialist epoch in the life of society.

Contradictions and new dialectical laws are defined in the Programme of the C.P.S.U., which gives a scientific,

philosophical and socio economic analysis of the ways of social development to communism. The analysis describes the new contradictions in the development of society from socialism to communism, the new character of progressive social development; the new laws governing the social relations of the two friendly classes—the working class and the collective-farm peasantry; the new character of the dialectical transitions from the old quality to the new, etc. It represents a creative development of the laws and categories of dialectics on the basis of man's new historical practice, expressing the creative character and vitality of Marxist-Leninist philosophy.

This is just what modern dogmatists fail to understand. They keep saying metaphysically that antagonistic classes exist also under socialism, that an irreconcilable struggle proceeds between them as before and that all the contradictions are the same as before. These contentions run counter to Marxism Leninism, to its creative and revolutionary spirit, and its great dialectics, and represent in the realm of theory a narrow, stultified and primitive approach.

The development of Marxist-Leninist philosophy in our time on the basis of new experience and science, demonstrates its profoundly creative character, its critical-revolutionary spirit and its superiority over all bourgeois, revisionist and dogmatic conceptions and views.

It does not follow, however, that the creative development of Marxist-Leninist philosophy—its enrichment with new conclusions and propositions, and the substitution of new propositions and definitions for outdated ones that no longer conform to the new epoch—and the continuous deepening and concretisation of its principles and categories, repeals these principles and negates their revolutionary essence and their objectively true character. That is how revisionism approaches Marxism, including the sphere of philosophy, for it strives to defile the revolutionary essence of Marxist-Leninist philosophy in general, and Marxist dialectics in particular.

At all times, and especially at present, the bourgeois ideologists have striven to pervert the creative nature of Marxism. Aiming to falsify the history and substance of Marxist-Leninist philosophy, its present-day critics contrast

the young Marx to the Marx of the 1870s, Engels to Marx, Lenin to Marx and Engels, Soviet philosophy to Lenin's, etc. Wetter, the "professional" critic of dialectical materialism, contends, for one thing, that the young Marx was a dialectician, but that he subsequently became a mechanist and "economic materialist". Other critics say Marx adhered to "Hegel's mystico-dialectical doctrine" and that, generally speaking, "Communism is essentially Hegelianism".¹ All this is absolutely groundless. For all the pertinence of Hegel's dialectics, it was based on an idealistic world outlook and is in this respect the very opposite of Marxist dialectics.

But the "young" Marx is also contrasted with the "mature" Marx from yet another angle. We are told the young Marx was preoccupied with the problem of man, that he was a humanist, that he even espoused the anthropological view, whereas subsequently he lost all interest in man and became an exponent of economic determinism, forgetting about man and humanism and subordinating all things to technology and economy. This is no mere falsification; it is outright slander. Bourgeois critics dread the power of Marxism and communism, which is the *true humanism*, that is, the highest form of humanism. The *whole* of Marxism-Leninism is designed to emancipate man from any and all oppression and to establish a society in which he will be afforded every opportunity for all-round and harmonious development. This is the essence of the Marxist doctrine, which is profoundly humanitarian and has been so since its inception to our day.

Present-day falsifiers contend that Marx's early works were the summit of Marxist philosophy, whereas his subsequent works, and the philosophical writings of Engels and Lenin, betoken a "decline" and "degeneration". The evangelical critics of Marxism in West Germany, such as Fetscher and Landgrebe, are the most sedulous in plugging this line. The retort to all of them is contained in the following lines of Lenin on this score:

"The genius of Marx and Engels lies precisely in the fact that during a very long period, *nearly half a century*, they

¹ J. M. Bocheński, *Handbuch des Weltkommunismus* Freiburg/Mün., 1958, S. 31.

and the new socialist society. This is why the philosophy of dialectical and historical materialism is the theoretical foundation of the revolutionary Marxist-Leninist world outlook, the proletariat's instrument for the radical reconstruction of the world.

Second, the scientific materialist conception of social phenomena has put the practical struggle of the working class on a scientific footing. Lenin noted specifically that it was the consistent materialism, the philosophical materialism of Marx alone that showed "the proletariat the way out of the spiritual slavery in which all oppressed classes have hitherto languished".⁴ It is impossible to succeed in a struggle for great goals with an incorrect, unscientific and idealist conception of history. In that case the working-class parties would construct unrealistic and fantastic projects and plans out of touch with the facts and devoid of practical significance. This is one of the reasons why all the projects and visions of the future society conjured up by the pre-Marxian socialists were utopian. The struggle for realistic ideals must be based on an objective analysis of the social conditions of that struggle and a knowledge of the true nature of social relations and of their material, economic foundation. This is why a philosophy that presents a scientific understanding of the laws that govern social development and proceeds from the postulate that the material factors, above all the mode of production of material values, are decisive in social life, is of tremendous significance for the working out of a correct strategy in the struggle, and for the substantiation of the necessary practical tasks the political party of the working class must put forward in its revolutionary struggle.

Third, dialectical and historical materialism, a philosophy based on the development of the scientific cognition of the world, is itself profoundly scientific. This means that the working class and the Communist Parties were furnished with a powerful theoretical instrument beyond all comparison with bourgeois philosophy. It is safe to say that after the creation by Marxism of its truly scientific philosophy, the bourgeois philosophical schools and doctrines were reduced to a condition resembling that of

⁴ V. I. Lenin, *Collected Works*, Vol. 19, p. 28

alchemy after the emergence of scientific chemistry. The Marxist philosophy is wholly and completely scientifically valid, unlike modern bourgeois philosophy. The workers of the world can therefore be proud of the philosophy they have been equipped with by Marx, Engels and Lenin, and can, moreover, rest assured that this philosophy, being a truly scientific one, is a reliable beacon in their difficult and complex struggle against the reactionary forces of modern capitalism.

Fourth, by virtue of its creative and critical revolutionary character, Marxist-Leninist philosophy has to be profoundly and continuously studied in close association with social practice and the revolutionary struggle of the working class and all working people on the basis of the continuously developing scientific cognition of nature and society. Marxist philosophy cannot be learned through a mechanical memorisation of its formulas and definitions. It is neither a catechism nor a collection of dogmas and "absolute truths"; it is a living and creative doctrine that develops continuously to keep abreast of life. It is this revolutionary and creative spirit of Marxist philosophy that makes it an effective instrument in the practical struggle, and one that has to be ceaselessly tempered and whetted in the course of the struggle to become still more potent and effective.

This also means that all the Communist and Workers' Parties must continuously develop Marxist philosophy, enrich the content of its principles and revolutionary ideas, put forward new propositions and concretise its laws and categories as they apply its postulates to fit the new and specific conditions of their work and practical struggle.

The Marxist philosophy is inimical to dogmatism and mental stagnation. It has developed ceaselessly in the historical struggle of the working class and all progressive humanity for the new socialist and communist society. It is the philosophy of the future, because it is the great philosophy of communism.

Let us now proceed to a systematic examination of the principal problems of Marxist-Leninist philosophy and of their theoretical and practical purport.

Chapter Two

MATTER AND THE FORMS OF ITS EXISTENCE. THE MATERIAL UNITY OF THE WORLD

The starting-point of Marxist-Leninist philosophy is that the world, all the things and processes around us, are but diverse forms and types of eternally changing matter, its various properties and manifestations. This proposition was best formulated by Lenin in his book, *Materialism and Empirio-criticism*.

"There is nothing in the world but matter in motion, and matter in motion cannot move otherwise than in space and time" (emphasis added) ¹

This concise definition of the substance of the world specifies the chief categories of materialist philosophy: matter, motion, space and time. It is these concepts that we shall examine in this chapter.

§ 1. Matter

Marx and Engels, the founders of Marxist philosophy, singled out the relation of consciousness to matter as the principal question of any philosophy, and gave it a dialectico-materialist answer. Their answer is tied up organically with the definition of matter as a vital philosophical category. Proceeding from the ideas of Marx and Engels, Lenin produced a truly scientific definition of matter.

"Matter," he wrote, "is a philosophical category denoting the objective reality which is given to man by his sensations, and which is copied, photographed and reflected by our sensations, while existing independently of them" ²

¹ V. I. Lenin, *Collected Works*, Vol 14, p 175

² Ibid, p 130

This classic definition emphasises the independence and primacy of matter in relation to consciousness, and gives a broad view of the principal category of Marxist philosophy.

The concept of matter encompasses all phenomena and processes of the objective world existing outside human consciousness. It reflects the material world as a whole, which is in continuous motion. This definition of matter gives the fullest possible and the most consistent scientific materialist conception of all things and phenomena of the surrounding world, and embraces all natural and social processes occurring independently of our consciousness.

Lenin's definition of matter opposes all idealist philosophy, and notably the views of the subjective idealists widespread in present-day bourgeois philosophy.

The exponents of the numerous varieties of positivism are the most typical representatives of subjective idealism in the capitalist countries today. They say the world has no objective existence independent of human sensations and emotions, that is, sensual or so-called "positive experience." What is more, they take the things themselves and the natural and social phenomena to be a totality of the sensual or "logical experience" of man, the cognising subject.

As a rule, modern bourgeois philosophy also approaches the problem of the relation of man and society from the standpoint of subjective idealism. Existentialism, for instance, which is a subjectivist and irrationalist trend in modern bourgeois philosophy, builds on the identity of object and subject embodied in existence. By existence it implies the existence of man, which is said to depend solely on his "free introspection" and on how he understands and interprets his own existence and the being of the world at any given moment. Not reality, not the social environment, is said to fashion man; it is man himself, and he who creates the social situations, and he, too, who alters the surrounding circumstances arbitrarily and subjectively. The existentialists ignore the decisive role played in man's life by objectively real conditions and factors, and oppose the scientific proposition formulated by the Marxists and confirmed by all of man's experience that the essence of man is the totality of social relations and that social being

determines social consciousness. Theoretically, this scientific view of man flows from the primacy of the surrounding world, of objective reality, in regard to man and his consciousness.

Lenin's definition of matter also militates against objective idealism, various schools of which have lately been gaining ground. His definition expresses clearly the idea that matter is the only objective reality existing independently of sensations. In contrast to objective idealism, dialectical materialism defines matter as the only objective reality and denies the objective existence of the absolute idea, the spirit, or God, which, according to the idealists and theologians, constitute a special, spiritual "reality".

The contemporary Catholic philosophers, the neo-Thomists and adherents of objective idealism generally, maintain like the neo-Thomist Wetter that Lenin's definition of matter "arbitrarily limits the whole of reality to material reality". Wetter believes that there is, in addition to material reality, a special "divine reality" which creates, animates and spiritualises matter. These conjectures are typical of the modern "scientific" theologians. Here is another example. Filippo Selvaggi, the Italian Thomist philosopher, who devotes himself specially to religious interpretations of modern physical theories and discoveries, says in his book, *Science and Methodology*, that "objective realism regards the spirit as no less real than matter".¹ The existentialists, too, and notably the so-called Christian existentialists, speak of different "realities", including the "realities" of consciousness, matter and of "transcendental" or "divine" other-world principles. This is, in substance, the same theological conception of reality as that of the neo-Thomists.

It stands to reason that in our time it is hard to deny the real existence of objects and natural phenomena, deeply cognised by science and practice, or of such real social phenomena as capitalism, unemployment, crises, wars, revolutions, etc. Objective idealism does not deny their existence outside human consciousness, but declares the world and its processes to be products of divine activity, of a world spirit, an idea, etc. According to the objective

¹ Filippo Selvaggi, *Scienza e Metodologia*, Roma 1962, p. 259

idealists nature is a derivative, of a divine nucleus and there exists something more powerful than nature. Religion calls this something *God*. The idealist philosophers substitute for *God* a more abstract notion, which they name spiritual reality, absolute idea, universal reason, etc. But this does not alter in the least the substance of their views.

The first part of Lenin's definition stresses that matter exists independently, that it does not need transcendental ideal forces in order to exist, and that consciousness is consequently a derivative and does not—and cannot—exist on its own, without matter, of whose historical development it is a product. Idealism, and this applies both to subjective and objective idealism, asserts, on the other hand, without providing any proof, that matter, or nature, is secondary, that it is a derivative: it regards matter either as a product of human consciousness, or as the result of the development of the absolute idea, as something produced by some mightier power existing outside matter. In this respect, idealism concurs entirely with religion in the conception of the world's essence, which contradicts the whole of human experience and the evidence of science.

The natural sciences have shown that consciousness is connected not with any kind of matter, but only with its highly organised form, that is, the human brain. Man did not exist forever; he emerged at a definite stage in the development of matter. This applies not only to man, but to all organic matter, which is a product of the development of inorganic matter. The history of the Earth reveals that for a long time the Earth lacked favourable conditions for the emergence of life, which appeared quite late in the history of our planet. There is an infinite number of physical bodies in the Universe devoid of living beings; that is, there exists an infinite number of material bodies devoid of even elementary signs of the psychical. This shows up the fallacy of contending, as do the idealists, that mind and matter are "equally" real.

It is also incorrect to say, as do some philosophers, that the definition of matter as objective reality independent of consciousness is insufficient to repugn objective idealism, which, allegedly, admits the existence of an external world outside human consciousness, but regards it as having derived from consciousness in general (the absolute idea,

God, etc.). Lenin pointed out time and again that the existence of matter outside, prior to and independent of, consciousness means that matter is primary, that it is the starting-point of philosophy; this runs counter to all idealism. "The essence of idealism," he wrote, "is that the psychical is taken as the starting-point; from it external nature is deduced, and only then is the ordinary human consciousness deduced from nature. Hence, this primary 'psychical' always turns out to be a *lifeless abstraction* concealing a diluted theology. For instance, everybody knows what a human *idea* is; but an idea independent of man and prior to man, an idea in the abstract, an Absolute Idea, is a theological invention of the idealist Hegel."¹ There is no non-human or supra human consciousness. The absolute idea, the absolute spirit, God, is essentially human consciousness artificially separated from man, absolutised and deified.

Consequently, these two standpoints do not just differ; they reveal the completely antipodal nature of materialism and objective idealism.

Lenin's definition of matter emphasises that it is "given to man by his sensations", that it is reflected by the human consciousness. The proposition that matter is "copied" or "photographed" by our sensations contests the agnostic theories, which deny the similarity of sensations with the objects they reflect. Furthermore, Lenin understands this "copying" and "photographing" as a complex, dialectical process, rather than a simple mechanical replica of material objects.

Lenin's definition of matter is the scientific result of the cognition of nature, a dialectico materialist generalisation of the development of human society, that is, of all spheres of the material world. It expresses the essence of the Marxist-Leninist apprehension of the surrounding world and reveals its distinction not only from idealism, but also from the old materialism which limited the concept of matter to natural processes only.

Various critics of dialectical materialism endeavour to simplify and pervert its basic propositions and concepts, in order to make it easier to knock them down. For one thing,

¹ V. I. Lenin, *Collected Works*, Vol 14, p 227.

they identify the philosophical category of matter with that of "substance". A philosophical dictionary published in the Federal Republic of Germany describes matter as a "lifeless substance" which has body and weight. It says materialism solved problems related to natural science and is "absolutely impotent in face of all the crucial, that is, human problems (consciousness, existence, sense and purpose of life, values, etc.), which it rejects as imaginary".¹

This is entirely untrue. In fact, modern scientific materialism, that is, dialectical materialism, provides the only truly scientific answer to the problem of man and explains his multifarious activity. The authors of the dictionary admit that "historical materialism believes in progress, in man's capacity for improvement, and in human solidarity. Happiness for all is the sense and purpose of historical development".² Let us add that it goes much further, for it not only believes this, but provides scientific substantiation for the laws governing social progress and for the purpose of historical development. The authors also admit that materialism is a way of thought preferred by the masses, but add in order to debase materialism and the role of the working people in society that the masses "hope to realise their goals above all by their 'weight', their vast numbers, and regard themselves as something more or less corporeal".³ This statement simplifies and vulgarises philosophical materialism; from the socio-political standpoint, its authors betray their contempt of the working people who, they say, are devoid of spiritual qualities.

To reduce matter to "substance of nature" is not only narrow and hidebound thinking; invariably, it is connected with an idealist interpretation of social phenomena and an inability to see behind the ideological motives of man's historical activity the roots of these ideas and relations, which spring ultimately from the development of material being, above all, material production. The above-mentioned broad definition of matter is therefore very important; it is universal, for it embraces all the spheres of material being, all material processes and phenomena, both nature and society.

¹ *Philosophisches Wörterbuch*, Stuttgart, 1955, S. 378.

² *Ibid.*, S. 379.

³ *Ibid.*, S. 378.

The dialectico-materialist conception of matter formulated by Lenin is the key to an understanding of the essence of the surrounding world. But this general conception of matter as the objective reality should not be confused with the various conceptions of the structure of matter, its properties, of the separate material bodies and processes of nature. Confusion of this kind by metaphysically minded natural scientists led them to erroneous inferences that "matter disappears", "matter turns into energy", "matter annihilates", etc.

Scientific discoveries, especially those of physics at the turn of the century, disproved the outdated conception that matter is a simple aggregate of homogeneous, indivisible, only outwardly connected atoms possessing absolute and immutable properties of imperviousness, inertness, mass, etc. The subsequent discovery of the radioactivity of chemical elements, the complex structure of the atom, and the infinitesimal electrically-charged particles making up the neutral atom, led Lenin to the general dialectical conclusion that no "ultimate", immutable and indestructible particles of matter existed. He formulated the highly important proposition that *matter was inexhaustible*, that the atom and the electron were inexhaustible, that is, that matter had infinite depth. Lenin's proposition has been conclusively proved by modern physics, thus testifying again to the deeply scientific nature of the principles of dialectical materialism.

First, modern physics has established that *the structure of the atom and the atomic nucleus* is complex and contradictory; it has gone deeper and deeper into the mysteries of intranuclear interactions which govern the origination and release of nuclear energy. These propositions have been confirmed in practice, in the practical use of the energy of the atomic nucleus to man's benefit.

Second, modern physics has discovered an extraordinarily rich and still largely unexplored *world of elementary particles of matter*. The atom itself is, above all, a dynamic system of the diversity of these particles. Today, nearly 200 particles are known to physicists, and they differ from each other in mass, spectrum, sign and value of electrical charge, lifetime, spin, energy state, etc. In fact, they constitute a boundless ocean in which science is discovering new

classes and types of particles of matter. It may be noted that all these discoveries are made possible by superior experimental techniques.

Third, Lenin's idea of the inexhaustibility of matter has been borne out conclusively by the discovery a few years ago that the *elementary particles themselves have a complex structure*, which is an indication of various *qualitative levels* in the structure of matter. This has already been experimentally established for nucleons or nuclear particles, that is, for protons and neutrons. It has been proved that the proton has a kind of core with an "atmosphere" consisting of other elementary particles known as mesons, where continuous processes occur of the transformation and production of new particles, which, however, live a very short time. Modern physics has established theoretically that other particles likewise have a complex structure. The electron, for instance, also has a kind of atmosphere in which various interactions occur of other elementary particles.

In 1964, physicists advanced the interesting hypothesis that many of the particles consist of so-called quarks, which are truly elementary particles possessing entirely novel properties. This hypothesis rests on the idea of the inexhaustibility of matter. All this is an indication that the "elementary" particles are not elementary at all; they are complex and inexhaustible like all matter.

There is still another important point of great philosophical significance, which has to be specially noted in connection with the modern scientific conception of the surrounding world, that is, the physical essence of matter.

Until the end of the past century, classical physics regarded atoms not only as indivisible, as the ultimate "bricks of the universe", but also as eternal and immutable particles of nature, of matter. This was a metaphysical notion. The new physics, which dates from the turn of the century, rejected this standpoint and demonstrated the profoundly dialectical character of natural phenomena in this respect as well.

Indeed, modern physics reveals to us the universal flux and mutability of phenomena within nature's very foundation, its internal core. The discovery of natural radioactivity (1896) and of artificial radioactivity (1934) established the

mutability of chemical elements, and showed that any element may be transformed into gold (the dream of the medieval alchemists) and into any other element of Mendeleev's system. The transformation of elements is conditioned by a change of the positive charge, that is, the number of protons, in the nucleus. By altering their number, new chemical elements may be obtained, and this is being done in practice by modern science and technology.

The universal mutability of chemical elements established by modern physics corroborates the dialectico-materialist conception of the phenomena of the material world.

However, modern science shows us still finer and still more profound changes and transformations of matter, which occur in its inexhaustible internal essence, namely, the universal mutability not only of chemical elements, but also of the elementary particles of matter. This is an extremely important scientific discovery.

The processes of transformation involve all classes and types of elementary particles. First, there is the transformation of light particles of matter, such as that of the *electron-positron pair into a pair of light quanta, or photons*. Second, there are diverse transformations of all types of mesons, which are, moreover, connected with the transformation of other types of particles. Third, there are reciprocal transformations of nucleon-protons and neutrons, accompanied by the isolation of light particles of matter (electrons and a neutron). Fourth, the recently discovered class of hyperons, or "superheavy" particles, reveals a similar regularity: the transformation of various hyperons into each other, and of hyperons into nucleons and mesons, etc. The same processes occur in the new class of particles, discovered in the 1960s, namely, the resonance particles, which are actually diverse states of particles occurring in the course of their universal transformations.

This is an extraordinary and complex world discovered by modern science, a world man had not known before, one that reveals the multifarious dialectical processes occurring *in the very foundation of matter, within its "inner bowers"*, its intrinsic substance.

The development of modern physics, which is extremely fruitful in all the major directions, has fundamentally altered the physical conception of the world of the end of

the past century. The main change is that the metaphysical notions of matter, such as that of the immutability and indivisibility of atoms, have been swept out and replaced by a profoundly dialectical understanding of all the principal material processes in nature. Our conception of the physical world, and cognition of the essence and laws of nature, have been radically altered by the change in the principal concepts in physics, the emergence of new notions and categories, and the creation of new physical conceptions and theories.

But does this radical change in our idea of matter signify its "disappearance"? Does it signify that the objective reality, which exists independently of human consciousness, has "disappeared"? The answer is self-evident. Matter, as the objective reality, as the surrounding world, continues its objective existence and ceaseless motion quite independently of any changes in our concepts or theories about the surrounding world. We may speak of the "immutability" of matter only in the sense of the immutable fact of the existence of the world, the immutability of the proposition of dialectical materialism that the external world exists independently of consciousness and is reflected in it. "No other 'immutability', no other 'essence', no other 'absolute substance', in the sense in which these concepts were depicted by the empty professorial philosophy, exist for Marx and Engels," Lenin wrote. "The 'essence' of things, or 'substance', is *also* relative; it expresses only the degree of profundity of man's knowledge of objects; and while yesterday the profundity of this knowledge did not go beyond the atom, and today does not go beyond the electron and ether, dialectical materialism insists on the temporary, relative, approximate character of all these *milestones* in the knowledge of nature gained by the progressing science of man."¹ Matter itself is infinite, Lenin stressed, and "*exists* infinitely".

This raises an important issue in the philosophical struggle of materialism against idealism and religion. In the past, philosophical idealism profited by the difficulties of scientific development and inferred the "disappearance" of matter from the disappearance of the old concepts and

¹ V. I. Lenin, *Collected Works*, Vol. 14, p. 262

notions of matter. Today, both idealism and religion nominally recognise the existence of the surrounding material world, but regard it as the product of the human mind and as the product and manifestation of "divine" reason. The new element is their lip-service to science and scientific conceptions, but, in effect, these are made to serve the idealistic and religious conception of the world.

Here are a few typical facts. The philosophy of modern positivism maintains that the surrounding world of matter is built up by man himself as the cognising subject. This is contended by Rudolf Carnap in his book, *Der logische Aufbau der Welt* (Logical Construction of the World). The whole material world, he claims, is broken down into logical elements and categories, which are logically linked and constitute a system of concepts and terms making up the "logical construction of the world".

Such reasoning contains a big logical mistake, namely, the substitution of the thesis of proof. The thesis of the logical construction of the scientific *picture of the world* is replaced by the thesis of the logical construction of *the world itself*. This is a mistake which substitutes an unscientific and idealistic conception of the world for its scientific and materialist conception. What the positivists actually say is that logic precedes material reality and that, moreover, it is logical categories connected into a system that *create* the external material world.

These contentions go no farther than the old idealist thesis that "matter is a logical category". We should therefore emphasise once more that the *concept* of matter as a *philosophical category* must never be confused with matter as the objective reality existing independently of any logical concepts or categories. This confusion is tailored by modern positivist philosophers to fit their idealist world outlook, which conflicts with science and experience.

Candidly religious philosophy gives a different explanation of the substance of the material world, but its main purport is the same. The Thomist philosopher Selvaggi recognises the order and harmony that exist throughout the Universe, "from the intra atomic particles to the extragalactic nebulae". But he describes this order as "the divine harmony which nature sings in its mute language and which the scientist strives to translate into the language of physi-

cal laws".¹ Again, we find a modern theologian nominally accepting science, physical laws, etc. But this does not alter the theological essence of the ideas expounded by such philosophers, because for them a "divine reason" continues to be the determinative supreme power, while nature—the whole of the material world—is only its product and manifestation. Thus, the scientific concept of matter is subordinated to religious ideas.

Let us note as a highly characteristic feature of all modern bourgeois philosophy that positivism also arrives at roughly the same religious notions as do the candidly religious philosophical schools. The prominent American positivist, Philipp Frank, says that "traditional religion is one of the theories we may give of the ultimate structure of the Universe"² In another book, *Relativity—a Richer Truth*, he declares that God rules the world in accordance with physical and mathematical laws, which he promptly identifies as the divine laws of nature. As we see, the essence of the material world is again reduced to a "divine" substance, which contention is essentially identical to the Biblical claim that God "created" and "ruled" the world.

We have before us two antithetical conceptions of the essence of the surrounding world: the materialist, based on the latest scientific knowledge backed by practice, and the religious-idealist conception, which is contrary to science and practice, and constitutes a system of ungrounded assertions and dogmas that may or may not be disguised by purely formal references to science.

Dialectical materialism regards the external world as a world of eternal and infinite matter in a state of ceaseless motion and flux. This view of the world, based on all the supreme achievements of physics, chemistry, astronomy, biology and other sciences, lays bare the fallacy of the idealist and metaphysical conceptions.

§ 2. Motion: Mode of Existence of Matter

Advanced philosophical thought, specifically materialist philosophy, came near to a correct understanding of the connection between matter and motion. The English and

¹ Selvaggi, *Scienza e Metodologia*, Roma, 1962, p. 21.

² Philipp Frank, *Philosophy of Science*, New York, 1957, p. 18.

French materialists first suggested that motion was connected with matter and described motion as an intrinsic property of matter. But the old-time materialists lacked a conclusive dialectical conception of motion, whose qualitative variety they reduced as a rule to merely mechanical processes. As for Hegel, who recognised universal motion in the world, he finishes up by taking the absolute, ideal element, rather than matter itself, as the moving substance.

Marx and Engels exposed the idealist attempts to divorce motion from matter and to regard matter as a passive substance, an inert mass, set in motion by an external active force.

The founders of dialectical materialism showed, on the strength of contemporary scientific achievements, that matter was active and that the source of its activity, of its motion, lay within itself. They demonstrated that matter and motion were indissoluble and proved that no type of matter could exist without being in motion. Motion is the mode of existence of matter. Matter is the basis of all the multifarious phenomena of nature and society, precisely because it is organically connected with motion. "The different forms and varieties of matter itself," wrote Engels, "can likewise only be apprehended through motion, only in this are the properties of bodies exhibited, of a body that does not move there is nothing to be said"¹ The world could not exist without motion

The mechanical materialists reduced motion to the simple mechanical movement of bodies in space and time, which led to the concept of matter as a mechanical aggregate of equivalent atoms, of homogeneous and indivisible particles of substance, etc. The great diversity of forms and types of the motion of matter was reduced to the mechanical movement of physical bodies.

In contrast to the mechanical materialists, Marx and Engels showed that the motion of matter had a diversity of forms. Motion is not simply movement from place to place; it is also molecular-thermal motion and light, electrical and magnetic tension, chemical analysis and synthesis, biological life and, finally, social life, the most complex and multiform type of motion. Thus, from the standpoint of dialectical

¹ Engels, *Dialectics of Nature*, Moscow, 1961, p. 251

materialism, the concept of motion embraces all changes occurring in nature and society. "Motion, as applied to matter," Engels wrote, "is *change in general*."¹

Motion encompasses all change occurring in the objective world. Its dialectico-materialist concept is universal and is therefore of great importance as a principle.

The concept of change is wider than that of development. *Change includes not only progressive development, but also regressive motion and simple displacement in space, which may proceed without either progress or regress*

In inorganic nature, in the whole of the Universe, there is, alongside the forward movement and the process of complication, also regressive motion, the dissolution of the complex into the simple, that is, the endless rotation of matter. In some spheres of the Universe, matter and energy are dispersed, in others they are reconcentrated, always *passing from one form of existence to another in an endless and eternal rotation of matter.*

Motion is the mode of the existence of matter, but this does not mean that changing matter has no moments of rest or equilibrium. In their practical activity, men encounter moments of rest virtually at every step. But rest or equilibrium are relative. They are not inherent in matter as a whole, but only in separate objects and processes. Thus, a physical body may be in a state of mechanical equilibrium or rest on Earth and at the same time take part in the motion of the Earth itself and the whole solar system. Rest is also relative in the sense that the given physical body is at rest in terms of one or another form of motion, but not in terms of all the forms of motion inherent in it. While the body is at rest, the atoms, electrons, nuclei, etc., that form it are in ceaseless motion. The elements of rest are also manifested in the stability of certain processes and the relative constancy of the forms of motion of matter.

Matter appears as an inexhaustible and infinite number of concrete types, each of which has its own qualitative peculiarities and typical properties. In general, motion is the mode of the existence of matter, whereas in particular, each specific type of matter has a specific form of motion, which is its particular mode of existence. The forms of

¹ Ibid.

motion in the world is infinite in number. However, the multiformity of the motion of matter known to science may be classified under a number of principal or basic heads. Engels was the first to produce a scientific classification of the forms of motion of matter.

He showed the indissoluble connection between specific types of matter and their corresponding forms of motion. He stressed that the celestial bodies and the other physical bodies in motion on their surface are vehicles of the mechanical form of the motion of matter, the molecules of the physical form, and the atoms of the chemical form of motion. "It is only chemical action, and not gravitation or other, mechanical or physical forms of motion," Engels observed, "that is explained by atoms."¹

Life is a higher form of the motion of matter. The material substratum of life is a system of specific substances—proteins, nucleic acids, phosphorus compounds, etc. The continuous self-renewal of the chemical components of living bodies, a ceaseless metabolism, which is essential to sustain life, is a substantial specific feature.

Social life is an even higher and more complex form of the motion of matter. It is based on the material production carried on by men, which determines all the other aspects of social life. It is a form that embraces all the material processes in the life of human society subject to investigation within the framework of historical materialism and the special social sciences.

The successes of natural science in the 20th century have extended our notions of the forms of motion of matter, which compels us to fill out and finalise Engels's classification. Lenin said on this score that such alterations in Engels's natural-philosophical propositions far from being "revisionist" in the accepted meaning of the term, are, on the contrary, an essential requirement of Marxism.² This is a fundamental and highly important proposition, which speaks again of the profoundly creative nature of Marxist-Leninist philosophy.

At the turn of the century, discoveries were made of new types of matter—the elementary particles constituting

¹ Engels, *Anti-Dühring*, Moscow, 1959, p. 108.

² V. I. Lenin, *Collected Works*, Vol. 14, p. 251.

the atom, namely, electrons, which form the shell of the atom, and protons and neutrons, which are the nucleus of the atom. These elementary particles have their own forms of motion. The nature of nuclear transformations is qualitatively different from the material processes earlier known in physics. The old molecular concept of physical motion became outdated. In our day, the forms of motion of inorganic matter include spatial travel of various bodies; movement of elementary particles and fields; electromagnetic, gravitational, and nuclear interactions; transformations of elementary particles, movement and transformation of atoms and molecules, including the chemical form of the motion of matter, changes in the structure of macroscopic bodies; heat processes, changes in the aggregate states of substance, and sound oscillations; changes in cosmic systems of various orders: planets, stars, galaxies, processes within the nuclei of galactic systems with their colossal density of substance; the birth of new celestial bodies, and many others.

Similarly, modern science has worked great changes in the concept of all other forms of the motion of matter, specifically, the biological form, where extremely great importance attaches to the achievements in other sciences, notably physics and chemistry.

There is a connection between the forms of the motion of matter, and transitions from one form to another. Each higher form of motion, say, the biological, which is the life of animals, plants and microorganisms, is associated with mechanical movement and is inconceivable without molecular, chemical, electrical and other changes. The same rule applies to other forms of motion, which are closely connected with each other.

It is vitally important for modern natural science to settle the question of the connection between the higher and lower forms of the motion of matter correctly. Dialectical materialism is fighting against two extreme views: the one that identifies the higher forms with the lower, and the one that divorces and opposes the higher forms to the lower.

The first of these extremes is evidenced in the mechanical attempts to explain the essence of the higher and more complex forms of motion of matter by means of the laws

governing the lower forms. This inevitably obliterates the qualitative distinctions between them.

The mechanical tendency has been lately manifest, among other things, in attempts to reduce social phenomena to biological processes, biological processes to quantum-mechanical ones and to physico-chemical processes in general, etc. The English biologist Charles Darlington, for example, maintains in his attacks on dialectical materialism that social phenomena may be explained by the genetic theory of heredity. For no valid reason, he extends the biological genetic theory and contends that the structure and the whole course of the history of society are determined by genes contained in chromosomes.¹ In so doing, he ascribes an especially important role to the genotypes of heroes, prophets and inventors. From this standpoint, social development hinges on "genetic recombination".² The biological theory of genes is of great scientific importance, but it applies to the life of biological organisms, and not to the history of society, where quite different laws prevail. The decisive role in society is played by material production factors, the development of the productive forces, of relations of production, and the activity and struggle of the mass of people. This is why a mechanical application of various biological theories to society is absolutely unjustified.

There is a distinct class bias in propagating such views. If the social structure were indeed moulded by genes, the structure of capitalism and the division of capitalist society into a proletariat, a peasantry, and a bourgeoisie would be eternal, or, in any case, as lasting as the genes themselves. Identifying the social with the biological obscures the nature of such social phenomena as war, slavery, exploitation, etc. Once the specificity of social processes is ignored, one might assume that these phenomena are eternal and that they cannot be eliminated. This false conception prompts its exponents to justify reactionary socio-political views, which express the desire of the exploiting classes to perpetuate their dominance.

¹ A gene is the infinitesimal discrete material particle of a chromosome, which is a structural element of the cell nucleus of animals and plants.

² Ch. D. Darlington, *The Facts of Life*, London, 1953, p. 408.

In contrast, the materialist view of history lays bare the objective economic laws of social development. It proves that the distress of the working people in bourgeois countries is not at all due to biological causes, but to the social failings of the capitalist system. It leads up to the conclusion that the only way to rid mankind of all the troubles inherent in capitalism is to transform society by revolutionary means, to eliminate capitalism and to build socialism.

The dialectico-materialist propositions concerning the qualitative difference and connection between the forms of the motion of matter help scientists to overcome the mechanistic theory, which reduces animate nature to inanimate, and to refute the metaphysical attempts of severing the animate from the inanimate, of absolutising the specificity of the animate, which becomes a kind of independent "element", a sort of "substance of life" unconnected with any of the material roots of the organism.

The latter clashes with modern science and its main achievements. Let us note the following important fact. Molecular biology is a science which has evolved in the past ten or twenty years. It deals mainly with the molecules of proteins and nucleic acids, and with the more complex systems known as viruses. These biological formations are on the borderline between the animate and the inanimate. The principal aspects of vital activity are reproduced and studied through the interaction of tiny structural elements on the molecular level. Molecular biology studies the connections between vital activity and the molecular structures, and the interactions of molecules. The very object of research requires that the study of the basic biological problems proceed through close interaction between biology, physics and chemistry. These branches of knowledge are closely intertwined, which results in the emergence of new fields of science and creates new possibilities of studying living nature

The dialectico-materialist conception of the phenomena of the material world thus promotes fruitful cognition of its laws, of its qualitatively different processes and forms of the motion of matter.

The forms of motion are interconnected and inseparable. One form of motion passes into another—the mechanical into the thermal, into the electrical, or vice versa. Any form

The motion of matter may in definite conditions turn into any other. These physical forms of motion are transformed into each other in specific quantitative relations. This makes it possible to introduce the concept of energy as a general measure of the motion of matter. In other words, it provides a single measure for the various physical forms of motion. Energy expresses the unity of the quantitative aspect of motion (indestructibility) and the qualitative aspect (convertibility of forms). Energy is a definite physical measure of the motion of matter, a measure of the convertibility of the forms of the motion of matter into each other.

The connection between the forms of motion and their convertibility has been formulated in the law of the conservation and transformation of energy. The discovery of this law confirmed the proposition of dialectical materialism that motion can be neither created nor destroyed and is capable of endless transformations. With this discovery, said Engels, "the last vestige of an extramundane creator is obliterated".¹ Hence, its atheistical importance. It shows that the mutations occurring in nature are not due to some other-world "divine" power, but to matter itself; it shows that nature is itself the cause of all the changes occurring in the world.

The progress made in physics after the discovery of the law of the conservation of energy was exploited by the idealists to dissociate motion from matter, to reduce matter to energy and to proclaim energy the basis of the world.

The most typical exposition of the idealist view that matter turns into motion or energy, was contained in the energism postulated by Wilhelm Ostwald, the prominent German chemist. Early in the 20th century, he opposed the materialist scientific proposition that energy must have a material vehicle, namely, that each form of motion has its own type of matter, and denied the reality of matter and of its concrete forms, the atoms and molecules. At one time he described atoms as "figments of the imagination".

Ostwald tried to remove the contradiction between materialism and idealism by identifying the concepts of matter and spirit with that of energy. He said that energy, which

¹ Engels, *Anti Dühring*, Moscow, 1959, p. 20

In his book *Materialism and Empirio-Criticism* Lenin proved that energism was an extreme exposition of "physical" idealism and was therefore absolutely untenable. He showed that the idealist efforts to dissociate motion from matter were expressive of the desire to relegate motion to the immaterial sphere, to dissociate thought from matter and to substantiate the idealist proposition that everything is thought. Acceptance of the fact that the world is motion does not immunise one from idealism. The idealist also accepts motion. He will not think of denying that the world is motion, wrote Lenin, but regards motion as the motion of his thoughts, concepts and sensations. The idealist will consider as absurd and will reject the question of what is moving.

The main difference between the materialist and the idealist conceptions of motion, Lenin stressed, lies not in the recognition or denial of motion; it lies in the recognition that matter exists outside and independently of the mind and is reflected in it, that motion is impossible without matter.

Many "physical" idealists in the capitalist countries persist in spreading the ideas of "energism", and give an idealist twist to the latest discoveries of physics.

The idealist contentions about the "disappearance of matter" and the existence of "pure" motion without any material vehicle are based on a distorted interpretation of such physical discoveries as that of the mass-energy law, the "defect of mass" phenomenon, and the transformation of the "electron positron" pair into photons, and vice versa.

The mass-energy equation discovered by Einstein is a fundamental law of modern physics, and is a projection of the two principal laws of nature: that of the conservation of mass, and of the conservation and transformation of energy. It is a physical expression of the dialectico-materialist proposition that matter and motion are indissoluble.

The modern exponents of energism distort the essence of the mass-energy law and declare that mass (and even substance or matter) turns into energy; they contend that modern physics has removed the difference between matter and energy. Matter, they claim, is nothing but energy con-

and time, and their independence from the mind and human conceptions, and from the modes of investigating and measuring space and time. Being forms of the existence of moving matter, space and time are as objectively real as matter itself.

For ages, materialism and idealism were locked in struggle over this question. Kant opposed the materialist view of space and time. He and his followers regarded space and time as *subjective a priori* forms of human contemplation. The empirio-critics, too, were subjectivist on this score and regarded time and space as "systems of series of sensations" and "convenient concepts" which man imposes on nature, etc.

Lenin argued against the empirio-critics, who were followers of the English subjective idealists Berkeley and Hume, that if their contentions of time and space being subjective were true the logic of the Machists would imply that it is not man with his sensations who existed in space and time, but space and time that existed in man. Clearly, this logic had nothing in common with the scientific concept of space and time. In contrast to this subjectivist view, said Lenin, materialism recognises the existence of objective reality, that is, matter in motion, independently of our mind, and therefore "must inevitably recognise the objective reality of time and space".¹

In the 20th century, the controversy over the essence of time and space centred on the theory of relativity formulated by Einstein in 1905 (special theory) and 1916 (general theory). This is natural, for the theory of relativity is the modern physical doctrine of time and space, the laws governing material motion at velocities approaching that of light. It has also broadened our conceptions about the field of gravity and yielded a new gravitational equation, more profound and accurate than that of Isaac Newton. The theory of relativity formulated in a new way important problems of modern physics, particularly that of time and space, which has a very strong bearing on philosophy.

Initially, almost all the trends in idealist philosophy took a negative view of the theory of relativity. This was due chiefly to Einstein's rejecting the concepts of "absolute

¹ V. I. Lenin, *Collected Works*, Vol. 14, p. 175.

space" and "absolute time" of Newtonian mechanics, which the Kantians declared to be eternal *a priori* forms of consciousness. As the theory of relativity gained ground in physics and its prestige expanded, the idealist philosophers had a change of heart and endeavoured to interpret it in the idealist spirit, aiming their efforts against materialism. They argued, among other things, that the theory of relativity proved that a subjective time in space existed for every individual. Eddington, the English physicist and idealist, wrote that time was related to the observer, and that length and duration were not things of the outer world. This meant to say that the properties of space and time were generally subjective.

The theory of relativity has nothing in common with the subjectivist notions of space and time. It destroyed Newton's conception of "absolute space" and "absolute time". Newton, who assumed time and space to be absolute, thereby dissociated them from matter and motion, turning them into independent, absolute entities. The theory of relativity, on the other hand, demonstrated the close relation of space and time to the motion of material bodies. Length and duration are neither absolute nor independent from moving bodies, and are wholly governed by the laws of the motion of the latter. This relation is expressed in appropriate mathematical terms. All that the observer does is to register the measurements of spatial intervals and periods of time, which are always objective and independent of the observer.

The achievements of physics and their successful application in practice confirm the *objective nature of space and time*. All the achievements of science and technology are based on the investigation of objective processes taking place in space and time, and only such investigation has proved to be correct and applicable in practice.

It stands to reason that our concepts and notions of the properties of space and time develop and change, which fact the positivist philosophers and idealist physicists take as evidence that these categories are subjective. Thereby they confuse the mutability of the scientific concepts of time and space with the immutable fact that man and nature exist only in space and time, which are always independent of any of our concepts and notions about them.

The proposition that space and time are objective is central for our philosophical appreciation of them. . .

The fact that space and time are forms of the existence of moving matter leads to the important dialectico-materialist postulate that *space and time, on the one hand, and matter and motion, on the other, are indissolubly connected*. Contrary to the arguments of the idealists and theologians, materialist philosophy proceeds from the real fact that moving matter moves always only in real space and time. "Being out of time," says Engels, "is just as gross an absurdity as being out of space"¹

The idealist contention that initially the world was at rest and therefore out of time, inevitably leads to the inference of an "initial impulse" that took it out of this state of absolute rest. Yet "initial impulse" is just another name for the conception of God.

Just as there can be no matter without space and time, so there can be no space separate from moving matter, and no time separate from material processes. "The two forms of existence of matter are naturally nothing without matter, empty concepts, abstractions which exist only in our minds."²

There is no time without the real objects and processes of the real world any more than empty space unconnected with matter. This is borne out conclusively by modern science. The development of physics and the emergence of the theory of relativity, and especially of the quantum theory of fields, has led to the conclusion that the so-called vacuum is not an empty space in the old sense of the word. The electrons, protons, positrons, photons and other particles of matter may be removed from space, but even then there remains a "something" that has definite physical properties. This "something", or vacuum, exercises an influence on the particles of matter and is subject to their influence. Vacuum is a definite state of physical material fields, which always possess definite and real properties. Contrary to the assertions of theologians and idealists, this means that there is no empty space unconnected with material processes.

¹ Engels, *Anti-Dühring*, Moscow, 1959, p. 76.

² Engels, *Dialectics of Nature*, Moscow, 1961, p. 239.

Modern physics has shown the profound connection between space and time and the motion of matter. The conclusions of the theory of relativity are very important in this respect. This theory has shown that the duration of processes, that is, time, depends on the velocity of material bodies, the spatial dimensions of a body, like the duration of the processes occurring in it, change with its velocity. It has been experimentally confirmed that the lifetime of the elementary particle, the meson, depends on its velocity; it has been proved that the life of rapidly moving mesons is tens and even hundreds of times longer than that of mesons in slow motion or at rest.

The theory of relativity reveals the deep going connection between the properties of space and time and matter itself, above all the gravitational field. Einstein pointed out in his book, *The Meaning of Relativity*, that 'the gravitational field influences and even determines the metrical laws of the space-time continuum'.¹ This determinative effect of the gravitational field on the properties of space and time is expressed in the theory of relativity in strictly mathematical terms.

The dialectical unity of matter, motion, space and time is determined by the unity of the material world. This dialectico-materialist proposition, as we see, has been conclusively confirmed by the development of modern physics, notably the theory of relativity.

Finally, the proposition that *matter is eternal and infinite in time and space* is another highly important postulate of dialectical materialism.

Materialism has always argued against idealism and religion over the problem of the infinitude of the world. Idealism and religion capitalise on the difficulties of cognition created by the intricacies of the dialectical path to the truth. The infinite Universe cannot be cognised at one stroke, not even by means of a far advanced scientific theory. Its cognition is a process, and at every given moment we know a definite finite part of the infinite Universe, gradually gaining knowledge of that infinitude.

¹ A. Einstein, *The Meaning of Relativity*, London, 1950, p. 50. The "space-time continuum" implies the whole physical world existing in space and time.

through the entire continuous process of the development of science and practice. Idealism and religion take advantage of these difficulties and capitalise on the fact that our knowledge at any given moment is finite and directly limited to the study of finite processes and phenomena.

This is not exclusively a gnosiological question, that is, a question of the ways and prospects of cognition. It has a strong bearing on the world outlook and is still an object of controversy between materialism and idealism, science and religion. The materialist world outlook, which rests on the evidence of science and practice, considers the world as infinite in space and time. By contrast, idealism and religion maintain that the world was created by God at some given moment in time, and that it will inevitably perish.

Needless to say, present day idealist philosophers and theologians do not simply repeat the Biblical stories about the creation and destruction of the world. They advance various conceptions outwardly tied in with scientific facts, but actually propagating the same religious ideas about the end of the world.

Thus, since the 1920s, some scientists in the capitalist countries have been spreading theories about the "expanding" or "scattering" of the Universe. These are based on the scientific discovery of the "red shift". In the second half of the 19th century, spectrum analysis began to be used extensively in astronomy. It helps to determine the chemical composition of the stars by their spectrum, for every chemical element gives a colourless flame its own specific colour. Spectrum analyses have thus enabled astronomers to discover many elements in the stars, and even to discover a number of chemical elements unknown on Earth.

The spectrum ranges from red to violet. It was discovered that the spectra of very distant cosmic bodies, galaxies above all, were displaced towards the red end. Scientists called it the "red shift" and established that it occurs only when the galaxies in question recede relative to the observer, and that it increases in proportion to the distance. This is evidence that the galaxies are receding at an accelerating rate. The recession of galaxies is now an established fact and speaks of a definite uniformity in the

movement of celestial bodies in the known part of the infinite Universe. But it does not warrant any conclusions about the whole Universe, where galaxies may be in various other forms of motion: approximation, progression, combined movement, etc. The fact of expansion now known to science applies only to a definite part of the Universe.

However, this highly interesting fact was used to draw some extremely idealist and theological conclusions. The Belgian abbot Georges Lemaitre produced the following hypothesis: the accelerating recession of the galaxies would soon lead to the disappearance of matter in cosmic space and thus bring about the end of the world. Those who recognise the end of the world must inevitably recognise its beginning. Lemaitre insisted that before their recession started, all the galaxies had been concentrated within a small compass, with the radius of the Universe close to zero. This was when God created the Universe, said Lemaitre. Idealist physicists hastened to his assistance. The theologian was backed by the astronomers and physicists Milne and Eddington. Milne declared that the "creation" of the world took place roughly 2,000 million years ago.

A similar statement was made in 1951 by Pope Pius XII. In an "astronomical" speech at the Vatican Academy of Science he declared that the world was not created 6,000 years ago, as the Bible says, but 9,000 million years ago.

How then did the world arise? Lemaitre made the assumption that it originated from a gigantic atom, the "father-atom". One day this atom exploded, bringing into existence all the celestial bodies, including the various galactic systems. Since then they have been in recession. However, this idea of a "father-atom" and the "beginning of the world" is quite untenable from the scientific standpoint, because it is quite arbitrary and is not based on the facts. The speculations of the Belgian abbot are solely designed to substantiate the religious ideas of the "beginning" and "end" of the world.

The American physicist George Gamow reasons along similar lines. He believes that in the "beginning" of the world there was a gigantic clot of neutrons which were

tremendously condensed. Suddenly, there was a great explosion, followed by the formation of the various celestial bodies.

Physics has established that in certain conditions neutrons can turn into protons, with other elementary particles—neutrinos and electrons—being released in the process. There is also the reverse process when protons turn into neutrons, accompanied by the release of neutrinos and positive electrons, that is, positrons. It follows that a gigantic explosion of a clot of neutrons sets the scene for the formation of an atomic nucleus, which consists of protons and neutrons. Electronic shells form round the nuclei, giving rise to various atoms, then molecules, then larger bodies and finally, all the celestial and cosmic bodies, including the galaxies. After the stellar systems appear, the Universe begins to expand.

This looks like a rather logical picture, which tallies with some of the latest scientific discoveries. However, it is out and out erroneous. Once again, the author maintains without any proof that the world has had a "beginning". He does not substantiate his opinion with any facts. What is more, he invokes *some unknown, transcendental force* which leads to the explosion, that is, sets matter in motion. The initial explosion and the subsequent development of the world take place in his account without any real physical causes. Moreover, all these contentions are at variance with the absolute law of nature: the conservation and transformation of matter and motion. That law, confirmed in practice over and over again, rules out any beginning of the world, any origination of matter from nothing, and any interference of transcendental forces in the natural course of events.

Consequently, the speculation modern idealists and theologians try to base on scientific evidence is quite groundless. Their only object is to create a semblance of scientific method and substantiation for their reactionary theological contentions about the "beginning" and "end" of the world. Defying all these theories, modern science, specifically physics and astronomy, prove that there is an intrinsic connection between matter, motion, space and time. This means that the infinitude of matter is at once the infinitude of the forms of its existence—of space and time.

composition of bodies by the nature of the light they emit when they are in a hot gaseous state, proved that all the celestial bodies that man has been able to investigate consist of the same basic chemical elements as the Earth. As a matter of fact, helium (the "solar" element) was really first discovered on the Sun, and was soon also found on the Earth. The chemical analysis of meteorites revealed that their chemical composition was similar to that of terrestrial bodies. But it is the discovery of the deep-going ties between *microphenomena* and the *macrocosm* that has furnished the most convincing evidence of the material unity of the world. What is more, astrophysics and astrochemistry have established that the nature of cosmic bodies, such as the stars, is entirely determined by the intranuclear processes occurring in them. The thermonuclear reaction that transforms hydrogen into helium determines the release of vast energy by the stars and their powerful effect on the surrounding cosmic medium. The unity of microphenomena and cosmic phenomena is the most striking proof of the material unity of the world.

The connection between animate and inanimate nature is an important aspect of the problem of the unity of the world. For a long time, scientists were unable to explain the specific nature of the living, the essence of life and its origination from natural, material causes.

Until nearly the mid-19th century, scientists believed that there was an unbridgeable gulf between "living" and "non-living" nature. Again, the idealists capitalised on the temporary setbacks suffered by science to maintain that living bodies originate through the action of a non-material, supernatural "vital principle" (*vis vitalis*). This assumption did untold damage to scientific cognition and distracted science from studying the question of the origin and essence of life.

However, chemists discovered the objective bonds between atoms in organic bodies and began to create them in test-tubes. The vitalist contentions that organic bodies are conceived solely by means of the "vital principle" were dealt their first serious blow in the early 19th century, when urea, an organic substance, was produced in the laboratory from inorganic substances.

By now it has been firmly established in science that

organic nature, i.e., life, is a product of the development of inorganic matter. The animate originated from the inanimate as a result of the natural development of matter. The living is a new and higher stage in the development of matter, which is single. The living is material not only in origin but also in essence. Life is only a qualitatively distinct form of the existence of a specific type of matter; namely, organic bodies consisting of proteins, nucleic acids, phosphorous compounds, etc.

Engels's classical propositions that life and vital functions are material, and that life is an inevitable, strictly law-governed stage in the development of matter, which have been borne out by science, dealt a decisive blow at the idealist theories which ascribed all biological processes to the workings of a "vital principle" which was said to inject life into nature from outside.

The further advance of organic chemistry and biology, the great discoveries of Darwin, Timiryazev, Michurin, Pavlov, of modern genetics and of molecular biology refuted the contentions of the vitalists and confirmed the dialectico-materialist proposition about the material nature of all vital phenomena, which again substantiated the principle of the material unity of the world.

In his *Materialism and Empirio-Criticism* Lenin describes the development of dialectico-materialist monism and stresses that "*natural science leads to the unity of matter*". Monism, we know, is substantiated by the trend towards the synthesis of the sciences in the second half of the 20th century.

This is most evident in cybernetics, a science with a very wide field of reference. It deals with the processes of control in mechanisms, organisms and social phenomena. This common cybernetical approach to qualitatively distinct phenomena of the surrounding world testifies to their material unity, without, however, questioning their qualitative specific. Dialectico-materialist monism bares the indissoluble unity and diversity of objective reality.

Proceeding from this unity of qualitatively different spheres of the material world, modern science and materialist philosophy infer an intrinsic connection between the world of psychical phenomena and their material physiological basis. The following statement by Engels is of

extraordinary importance in this context. "The certainty that no spiritual world exists separately, besides the material world," he said, "is the result of a long and wearisome investigation of the real world, inclusive of the products and processes of the human brain"¹ This notion has been conclusively borne out by scientific development.

The teaching of the higher nervous activity created by the Russian scientists Sechenov, Vvedensky and Pavlov, which has been developed by their followers in various countries, demonstrated that material physiological processes lie at the root of the processes occurring in the human brain and of the complex phenomena of psychical life. This idea was best formulated by Pavlov. "Psychical activity," he said, "is the result of the physiological activity of a definite mass of the cerebrum."²

The scientific solution of the question concerning the connection between mind and matter, the psychical and the physiological, is an important proof of the material unity of the world. Speaking of the contraposition of the material and the ideal in the context of the basic gnosiological question, Lenin pointed out that it would be a great mistake to treat the contraposition of mind and matter—the psychical and the physical—as an absolute antithesis outside the gnosiological framework.

There is only one material world, and consciousness does not constitute a distinct world. It is the product of the development of matter. The unity of consciousness and matter derives from the fact that consciousness does not exist without matter, that it is a product of matter and a property of highly-organised matter. The content of consciousness is the material world, the world of moving matter, which it reflects. In this sense consciousness belongs entirely to the material, being a special property of matter, and not of some "divine spirit".

Finally, to give a logically complete and consistent picture of the material unity of the world, we must dwell briefly on the relationship between social and natural phenomena.

The relationship between nature and society was an

¹ Engels, *Anti-Dühring*, Moscow, 1959, p. 406

² I. Pavlov, *Selected Works*, Moscow, 1949, USSR Academy of Sciences, p. 516 (in Russian).

open question before the appearance of Marxist philosophy. Social phenomena were metaphysically opposed to natural ones. Dialectical materialism demonstrated that the emergence of man, and consequently of human society, in the historical development of matter was a natural and logical result of the development of the single material world.

Human society is a part of the material world and a natural result of its development. But it is also a qualitatively distinct and specific stage in the development of matter and differs from all the other and preceding stages. Marxism has established the unity of all social, political and spiritual relations of men, which are based on material production. It is through material production that the unity and interaction of society and nature is effected.

The great achievement of Marx and Engels was that they proved the transition to human society to have been the result of labour. Labour played the decisive role in the transformation of ape into man. In the process of labour, man exercises an active influence on nature with the aid of his implements, transforming it and adapting it to his needs and wishes. Labour is man's purposive and conscious activity aimed at producing the material goods he needs to live. Labour, material production, is the basis for the emergence and development of society; it is the element which at once distinguishes society from nature and embodies their unity.

To sum up, the material unity of the world is universal, all-embracing, extending to every sphere of material being, and to all phenomena and processes in the development of nature and human society.

• • •

What then is the significance for our practical activity of the propositions of dialectical materialism analysed above? Let us note two main points.

First. The main trends in the activity of the revolutionary forces, the working out of their strategy and tactics, the elaboration of the programme goals and tasks must all necessarily rest on the study of the *material processes of*

reality, on the study of their material essence. The diversity of the development occurring in the world is the diversity of the forms and types of the single material substance—of matter in motion. This is why a scientific appreciation of the phenomena of the surrounding world calls for the investigation of the *material causes of all phenomena*, especially of political and ideological phenomena.

Lenin's insistence on the need to analyse the whole complex of the objective material conditions of the working-class struggle is, therefore, of great importance. "Only an objective consideration of the sum total of the relations between absolutely all the classes in a given society," he wrote, "and consequently a consideration of the objective stage of development reached by that society and of the relations between it and other societies, can serve as a basis for the correct tactics of an advanced class"¹

An objective analysis of the material conditions of social development at the present stage has enabled Marxists-Leninists to determine the principal law governing development in the contemporary epoch. It is defined in their international documents and says that social development in the 20th century proceeds from undivided imperialist domination of international affairs through the struggle of the two social systems—socialism and capitalism—to the undivided world-wide reign of communism.

It follows from the proposition that social being, above all material production, is the decisive and determining force of the whole of social development that the Marxists-Leninists must base their policy on a knowledge of the laws of development of material production. The struggle against the subjectivist and voluntarist errors of some Marxists should always proceed from the Marxist Leninist postulate about the determining role in the life of society of the material factors, above all economic laws, the experience of the proletarian class struggle at home, the international working class movement, and of socialist and communist construction in the socialist countries. In politics, subjectivism and voluntarism, which ignore the decisive role of objective material factors, lead inevitably to an incorrect interpretation of surrounding phenomena and to

¹ V. I. Lenin, *Collected Works*, Vol 21, p 75

a loss of orientation in the complex conditions of the struggle and to serious mistakes in practice.

This testifies to the need of proceeding from a deep and all-round analysis of the material conditions of the working-class struggle, from an objective analysis of material reality itself, when working out scientific principles.

Second. The above dialectico-materialist propositions on matter, motion, space and time have been borne out conclusively by modern science and practice. This infuses the philosophy of dialectical materialism with extraordinary power and makes it superior to all other philosophical schools, past and present. In their struggle against modern bourgeois philosophy, Marxists-Leninists therefore have the advantage of principles and propositions which are genuinely scientific, based on a solid scientific foundation and expressive of the profound unity of the philosophy of dialectical materialism and natural science.

This is a highly important point in the contemporary ideological struggle, the struggle of the scientific materialist world outlook against idealism and religion. Present-day idealist philosophers and theologians try to capitalise on the contradictions and difficulties of scientific development and to use its results for their own ends, to distort the true meaning of scientific achievements and theories, and to interpret them in the idealist and religious spirit. This applies especially to the problems of matter and motion, and space and time, which are basic to an understanding of the essence of the surrounding world.

The struggle in behalf of the correct, materialist view on these cardinal philosophical problems, against their idealist and theological distortions, is a struggle for the moulding of the scientific world outlook of the working class, of all working people and the intelligentsia. It should always be borne in mind that the ideologists of the bourgeoisie in general, and those of clericalism in particular, endeavour to corrupt the working class and the various sections of the intelligentsia by all possible means. The warning issued by Lenin on the need to combat religion is therefore entirely valid in our time. We cannot afford to underestimate the adversary. "Fideism," Lenin wrote, "stands fully armed, commands vast organisations and steadily continues to exercise influence on the masses,

turning the slightest vacillation in philosophical thought to its own advantage."¹ This is even truer today, because religion enjoys the powerful support of the bourgeois state and monopoly capital, who use all possible means to deceive the masses and spread reactionary political and philosophical ideas.

In this struggle, the scientific materialist world outlook, based on the aggregate of scientific knowledge of the laws of development of nature and society, is the strongest ideological weapon of the working class and all working people.

¹ V. I. Lenin, *Collected Works*, Vol. 14, p. 353.

Chapter Three

MATTER AND CONSCIOUSNESS

The preceding chapter examined the Marxist conception of material phenomena constituting an infinite diversity of types and forms of matter in motion. The question of material and ideal processes was examined cursorily from the standpoint of the unity of the surrounding world. Now we shall specifically examine the essence of ideal processes, the essence of consciousness, from the standpoint of their connection and relationship with material processes.

§ 1. The Conflict of Materialism and Idealism Over the Nature of Consciousness

In studying the material world, man could not fail to turn his attention on himself, on cognising his own spiritual world. After the inception of philosophical knowledge, the problem of the essence and origin of man's spiritual world in its relationship with the material world became the central object of philosophical investigation.

There are two diametrically opposite conceptions of consciousness, of its essence, of its relation to matter. Materialist philosophy takes the view that consciousness depends on matter, that it is secondary to matter and does not exist independently, being a special property of matter. Idealism proceeds from the primacy of consciousness over matter and defines it as the cause of being. Consciousness, say the idealists, does not depend on material processes, on the brain, and exists independently, constituting a special ideal world.

The objective idealists, from Plato down to the modern

objective idealists, aver that the forms of consciousness (ideas, notions, and the like) are absolute and declare them to be the basis of all existence. The neo-Thomists and personalists connect human consciousness with the existence of the "soul", a special non-material organ Independent of the body and bestowed on man at his birth by God, the soul is said to be a particle of the divine, the "breath of God", and therefore immortal All forms of human consciousness are but differing manifestations of the "divine soul" or "divine reason".

The subjective idealists identify being and consciousness, and regard reality as the sum total of the states of the consciousness of man himself. Objective idealism dissociates man's consciousness from man, turns it into an absolute and defines it as a divine substance or absolute idea, while subjective idealism takes the forms of consciousness of individuals to be absolute, identifies the objective and the subjective and dissolves the former in the latter.

It is above all the neo-positivists who define the essence of consciousness in subjective idealist terms They consider it a philosophical "crime" to transcend the framework of the subject's emotional world. Sensations, they say, do not connect men with the external world and have no relation to it, for they are something primary. Semantic idealism, a variety of neo-positivism, endeavours to prove that consciousness and thought determines the laws that govern social development. The social system of a country, it avers, depends on the dominant philosophy, and the philosophy of a people is in turn determined by the specific of the people's language. This is why, say the semanticists, society can be changed, provided we modify our concepts of social phenomena, our consciousness, and the forms and peculiarities of our language.

In all its forms and varieties, idealism isolates consciousness from its material premises and regards human thought, man's ideas, concepts and flights of fancy as independent and "free" creativity determined by nothing but consciousness itself.

Virtually the same ideas are being expounded by the present-day bourgeois philosophers, who assume the garb of "neutrality" and seek "harmony" and "equilibrium" between the material and the ideal. George Santayana, the

prominent American philosopher and an exponent of so-called realism in contemporary philosophy, maintains that one can be idealist and materialist at one and the same time. "If you are a materialist in respect to matter," he says, "you will be an idealist in respect to mind."¹ This also carries the implication that consciousness is in no way connected with the material world and is an independent ideal element. This is why, says Santayana, it is possible to be an "idealist" in one's comprehension of consciousness.

The conception of consciousness as independent and primary in respect to matter is unscientific and distorts its true essence. All the same, the idealist answer to the principal question of philosophy, based on this unscientific conception of consciousness, has epistemological and social roots.

Its epistemological roots lie in the specific and conflicting nature of the process of human cognition. The very term "consciousness" contains the idea that we gain our knowledge of the world through consciousness. The perception of the world, of the essence of phenomena and of the laws governing their development is a complex and contradictory process. It goes beyond the sensory reflection of objects and phenomena to the creation of abstractions, concepts, hypotheses and theories. The working out of concepts as forms of abstract thought is not an instantaneous act, but a gradual process of the historical practice of mankind. The fact that concepts spring from experience is forgotten and some scientists tend to identify consciousness solely with abstract logical thought, dissociating it from the cognitive process. Idealist philosophers take advantage of this and aver that consciousness is independent, that its creative capacity is absolute and that it can create real things and phenomena.

The one-sided view of consciousness and of its forms, the absolute nature attributed to its activity and its relative independence, create the possibility of an idealist conception of consciousness as an ultimate substance independent of man and society. In certain historical

¹ G. Santayana, *Transcendental Absolutism*, *Twentieth Century Philosophy*, New York, 1947, pp. 319-20.

conditions, when there are social forces who benefit from such an approach, this possibility becomes reality.

Elements of the idealist conception of consciousness existed in the thinking of primeval men in view of their primitive general notions about the nature of man, but it was not until society broke up into classes and mental labour was separated from manual labour that these elements crystallised to the full extent. Science, the arts, philosophy and the other spheres of social consciousness constituted themselves into autonomous branches of men's spiritual activity and gained a seeming independence from the material factors of social life. Mental labour became the privilege of the ruling classes and manual labour became the lot of the exploited. After the division of labour into mental and manual, "consciousness *can* really flatter itself that it is something other than consciousness of existing practice, that it *really* represents something without representing something real; from now on consciousness is in a position to emancipate itself from the world"¹ In view of this approach, the activity of the mind could indeed appear as primary and determinative in respect to actions performed in the process of manual labour and to the world of surrounding things.

In determining the essence of consciousness, dialectical materialism proceeds from the fact that the antithesis of mind and matter is absolute within the framework of the principal question of philosophy, and relative outside it. Mind is antithetical to matter; it is not material, but ideal. The essence of consciousness is the ability of the human brain to reflect the external world in ideal images. Consciousness is the aggregate of the forms of psychical activity: sensations, perceptions, notions, conceptions, ideas, thoughts, volition, etc. The ideal does not contain any portion, even the smallest, of the substance of the object it reflects; neither is it a piece of the brain; it is in-extensive and cannot be measured, weighed or perceived. Consciousness is no more than a reflection of the objective material world in man's brain. The world as we conceive it in our minds is not the same thing as the world in itself. The world in our minds is only an image, a more or less

¹ Marx and Engels, *The German Ideology*, Moscow, 1961, p. 43.

accurate reflection of objectively existing things and phenomena. We would over-simplify and vulgarise dialectical materialism if we were to confuse the ideal and the material, and disregard the qualitative difference between them.

The definition of the psychical as the ideal refers to the product or result of psychical activity, to the image in its relation to the object. Consciousness is ideal, because it is a reflection of the material world in subjective images, concepts and ideas. Lenin pointed out that forms of consciousness are subjective images of the objective world and that consciousness as a whole is only an *image of the external world*.¹

Sensations, perceptions, notions and concepts do not make a special *ideal substance*; they are images or reflections of things existing outside the mind, and of their properties and relations. The reflected thing exists differently in the human mind than it does in reality. In the brain it is converted into an incorporeal copy, a facsimile or cast of the corporeal material object. The image of a thing is both similar to it and dissimilar. The image is not a material thing, but it cannot exist without the things of the external world, which act on human sense-organs. Therefore, being a reflection of things, the image has a common and identical content, which assumes an ideal form. In this sense consciousness is subjective in form and objective in content. It is this contradictory nature of the ideal image that is expressed in Lenin's definition of consciousness as a subjective image of the objective world.

The dialectico-materialist conception of consciousness is opposed to all the varieties of idealism, and to vulgar materialism.

The vulgar materialists regard consciousness as a variety of matter, as a physiological reaction to the impact of the outside medium, as a material exudate of the brain, similar to the bile secreted by the liver. By virtue of the advances made by electrophysiology, all manner of vulgarisers are trying to reduce thought to electromagnetic oscillations emitted by the brain.

It is quite true that the brain continuously emits electro-

¹ V. I. Lenin, *Collected Works*, Vol. 14, pp. 69, 90.

magnetic waves, deriving from its activity in solving various problems. But a recording of the electromagnetic radiation of the brain will give no clue as to the content of the thoughts. Electrophysiological research is very important in our study of the brain as highly-organised matter, but it does not reveal to us the content of thinking as the ideal process of the reflection of material reality.

Vulgar materialism denies the qualitative difference between consciousness and matter, and dissolves consciousness in matter, while the various idealist and agnostic schools deny that the ideal and the material are similar and have an identical content. It is therefore essential for us to dwell on the so called theory of hieroglyphs.

The German physiologist Johannes Peter Müller formulated a law of the specific energy of the sense-organs. It says that sensations and material objects are dissimilar. The qualitative diversity of sensations is not due to the qualitative diversity of the properties of external objects, but to the specific state and peculiarities ("specific energy") of the sense organs of the particular perceiving subject. This is a typically idealist point of view. "The idealism of this physiologist," Lenin wrote, "consisted in the fact that when investigating the significance of the mechanism of our sense-organs in relation to sensations, showing, for instance, that the sensation of light is produced as the result of the action of various stimuli on the eye, he was inclined to arrive from this at a denial that our sensations are images of objective reality"¹

Hermann Helmholtz, the celebrated scientist and philosopher, draws on Müller's "specific energy" law to devise the "theory of hieroglyphs", according to which sensations are not subjective images of the objective properties of things, but symbols in no way similar to these properties.

The work of Helmholtz, a scientist of the first magnitude, was spontaneously materialist in tenor, though he himself was under the sway of Kantian philosophy and, being unaware of the dialectic of absolute and relative truth, arrived in his discourses at a denial of the correct cognition of things, at agnosticism. Lenin spotted this inconsistency clearly. "Helmholtz," he said, "was an inconsistent

¹ V. I. Lenin, *Collected Works*, Vol. 14, p. 304.

Kantian ... now deriving human sensations from external objects acting on our sense-organs, and now declaring sensations to be only symbols, i.e., certain arbitrary signs divorced from the 'entirely different' world of the things signified."¹

The Russian physiologists I. M. Sechenov and I. P. Pavlov, who produced the theory of the higher nervous activity which showed the real nature of all psychical processes, proved conclusively that physiological idealism and the theory of hieroglyphs had no basis in scientific fact. The two Russian scientists demonstrated that all the forms of the conscious activity of animals and men depended on a material physiological basis and on the influence of external objects. *Being a property of the brain, consciousness and sensation imply the existence of material objects which act on the brain. There can be no sensations, no concepts, and no thoughts without signals from the external world and the interaction between the brain and the external world*

It is the external world that causes sensations. But sensations also depend on the specific organisation of the sense-organs. Ultimately, this specific organisation is determined by such objective phenomena as electromagnetic waves (light), oscillations of the air (sound), etc., which act on the corresponding organs.

Without sunlight, man and the higher organisms would never have developed their organs of sight. S. I. Vavilov, the distinguished Soviet scientist, wrote that "the eye cannot be understood without a knowledge of the Sun. Conversely, the properties of the Sun can provide a theoretical outline of the specific of the eye, of what it must be, without knowing it beforehand."²

This idea is confirmed in modern biology not only in respect to the eye, but also to the other sense organs. Sensations are a *bond, rather than a gulf, between human consciousness and the objective world*. All types of sensation are invariably the result of the action of matter on our sense-organs. They are, Lenin noted, the energy of the external stimulant converted into a fact of consciousness.

¹ Ibid., p. 234

² S. I. Vavilov, *The Sun and the Eye*, Moscow, 1950, p. 122 (in Russian).

Sensations are the elementary result of the influence of the objective world on man's sense organs. Sensations are elements of perceptions as integrated sensory images. Perception, for its part, is the basis for the formation of general ideas and the initial component for the development of scientific concepts.

Ideas, like sensations and perceptions, refer to sensory consciousness and give a sensory picture of real objects and phenomena. However, it is already a generalised image which is retained in and reproduced by the brain even when the objects and phenomena no longer directly act on the sense organs. This is the first *mediated* bond between consciousness and the real world.

Thought is the highest form of consciousness and springs from the sensations and perceptions furnished by the sense-organs. In contrast to sensation, thought is universal. It is a reflection of things in their essence, their connection and their relation to other things. It is a reflection of reality deeply mediated by sensory cognition. The ability of the brain to produce generalised reflections of reality is expressed in man's capacity to form general concepts, whose role and significance are specially examined in the theory of knowledge.

All this goes to show that consciousness, an ideal process, is not an independent substance, but a property of the brain, a product of its activity, its *function*.

§ 2. Consciousness—a Historical Product and a Property of Highly-Organised Matter

It is vitally essential to approach the problem of the origin of consciousness from the standpoint of history in order to apprehend the essence of consciousness and to refute the talk about its supernatural, divine substance. Engels noted rightly that the existence of the human brain seems a miracle, unless we investigate the prehistory of human thought.

Human consciousness, and even its first stage, sensation, is the result of a long historical development of nature. Speaking of the historical origin of sensations, Lenin said that "in its clearly defined form sensation is associated only with the higher forms of matter (organic matter)". But the

faculty of sensation does not appear in matter overnight. Neither is it implanted in matter by some external force. It is the result of a long evolution of matter itself, and of the development of its intrinsic properties and relations "In the foundation of the structure of matter," Lenin observed, "one can only surmise the existence of a faculty akin to sensation".¹ Elaborating on this idea, he added "It is logical to assert that all matter possesses a property which is essentially akin to sensation, the property of reflection"²

This does not go to say, however, that reflection is identical to sensation. The former is clearly the broader of the two concepts. Reflection may be said to connote the capacity or the property of material bodies to react in a certain way to external stimuli, that is, to reproduce the specific of the external stimuli in various forms and by various means, and to convert the energy of the external stimuli into internal changes of the interacting body. It is the internal side of every reaction and interaction that we accentuate in the concept of reflection. It forms and leaves "traces" and "marks" which exercise a definite influence on the further existence and development of bodies. Yet all forms and types of reflection are invariably the result of the action of external objects on a given body which reacts in one way or another to external stimuli.

The result of any action on a material object depends not only on the objects exercising this action, but also on the properties of the object on which the action is exercised. The prehistory of sensation is rooted in that the various forms of reaction of objects to the influences of their environment changed and became more complex.

By way of examples of reflection in inorganic nature, we might mention the reflection of objects in a mirror, the change of the properties of iron under the effect of a magnetic field, and the changes of a chemical element undergoing a reaction. Treated as a form of information, the capacity for reflection inherent in non-living bodies has been put to practical use in cybernetic devices, notably the rapid-action electronic computers. In inorganic matter this capacity for reflection takes the form of mechanical, physical, chemical

¹ V. I. Lenin, *Collected Works*, Vol. 14, p. 46.

² *Ibid.*, p. 92.

and other simple responses of material bodies to the effect exerted on them by other bodies and the surrounding conditions. Qualitatively new and more intricate forms of reflection appear with the transition from inorganic to organic matter. The biological form of reflection may be traced back to the inception of living albumen, which is able to reconstitute itself through the selection of nutrient substances in its environment. Living beings have an active attitude to external inorganic factors, some of which sustain life and some of which impair it.

The genesis of life is a necessary *biological precondition of consciousness*. Modern science has probed the perplexingly complicated process of the origin of living nature quite deeply. The hypothesis on this score of A. I. Oparin, the Soviet scientist, has gained widespread recognition. According to Oparin life on earth originated as follows:

In the first stage the most primitive organic substances, such as hydrocarbons (compounds of carbon and hydrogen) and cyanides (compounds of carbon and nitrogen), and their closest derivatives, originated from inorganic matter.

In the second stage there appeared high molecular polymers, which are complex and multiform organic compounds. Their conception occurred in the waters of the primary seas and oceans of the Earth, with the result that these waters turned into solutions of various organic substances.

In the third stage of evolution complex albuminoid substances joined into whole complexes of diverse molecules. Then, these complexes became distinct individual formations, whose evolution led gradually to the genesis of primary living organisms.¹

It stands to reason that the whole of the genetic process was contradictory and highly complex. But its main content reveals an ascendant trend in the evolution of matter, leading at a certain stage to the appearance of animate nature.

Equipped with the impressive achievements of physics and chemistry the modern biologists treat the crucial criteria of life (metabolism, mutability, heredity and the faculty of reproduction) in their aggregate action and adjustment, their complex and dynamic structure. Albumen, nucleic

¹ See A. I. Oparin, *Life, Its Nature and Origin*, U.S.S.R. Academy of Sciences, Moscow, 1960 (in Russian).

acids (DNA and RNA) and phosphorus compounds are the principal substrata of living bodies.

All this repugns the religious contention that life was ostensibly implanted in nature from outside by a supernatural "divine" power. Modern science proves conclusively the materialist postulate that life is the result of a long evolution of matter itself, culminating in the emergence of human life, the supreme stage of the biological form of the motion of matter.

Excitation, a new specific form of reflection, then appeared in living nature, infusing the property of information with new meaning. Excitation is the faculty of reacting to external stimuli with a state of internal excitement. It is a state of albuminous complexes interconnected with metabolic processes, and occurs in the simplest living organisms, being highly developed in plants. With the evolution and complication of living beings and the development of a nervous system, which is typical of the animal world, the biological forms of reflection became more complex too, resulting in the emergence of psychical forms of reflection.

Psychical phenomena originate and exist as functions of the brain. Psychical and conscious activity cannot exist without, and independently of, the brain, that is, matter. As a function of the brain, consciousness is the result of material processes constituting the higher nervous activity proper to animals and men.

Study of neural processes, the material substratum of psychical phenomena, is essential for scientific psychology. The foundations of the materialist theory of the higher nervous activity were laid by Sechenov in the mid-19th century. His book, *Reflexes of the Brain*, showed that all the conscious acts of animals and men are reflexes of the cerebrum induced by the influences of surrounding objects on the living organism.

These ideas were developed by Pavlov, who worked out the modern theory of the higher nervous activity, which substantiates the materialist proposition on consciousness being a function of the brain. Pavlov attacked the theological notions of a soul and the idealist views of the zoopsychologists, who ascribed to animals "spiritual" activity independent of their corporeal organisation. "It is not psychology that should help the physiology of the cerebral

cortex," he said. "On the contrary, physiological study of this organ in animals should serve as a basis for a precise scientific analysis of man's subjective activity."¹ The theory of the higher nervous activity proved that the complex and diverse activity of the cortex determines all the forms and manifestations of the psychical activity in animals and men. The cortex consists of thousands of millions of nerve cells with numerous centres, points, links and nerve ramifications. The human cortex, by the way, contains roughly 17,000 million nerve cells, and a dog's 2,000 or 3,000 million.

Scientists are getting to know increasingly more about the intricate structure of the cerebral cortex. They are investigating the macroscopic formations of the cortex, its convolutions and fissures, the various subcortical nuclei, and various microstructural formations. The related sciences, notably chemistry and physics, have enabled neurophysiology to consider the biochemical and microscopic processes inducing the activity of specific neurons, that is nerve cells of the brain. It is the multiform and complex functioning of the cerebrum, nature's most delicate and most intricate "instrument", that determines all the forms of consciousness, including the highest intellectual activity of man.

The modern theory of the higher nervous activity regards the nervous system of animals and men in its indissoluble connection with the environment. The cerebral cortex is a "great signalling panel" receiving numerous signals from external objects, which, in turn, induce reactions in the nerve cells of the brain. "The whole nervous system on our planet," says Pavlov, "is an incredibly fine and complex instrument of relations and connections of the numerous parts of the organism between themselves, and of the organism as a most complex system with an endless number of external influences."² The interaction of the nervous system with the environment results in the appearance of numerous temporary links or conditioned reflexes, under whose influence nearly all of the animal's activity takes place.

¹ I. P. Pavlov, *Lectures on the Work of the Cerebral Hemispheres*, Moscow, 1937, p. 16 (in Russian).

² I. P. Pavlov, *Selected Works*, Moscow, 1949, p. 518 (in Russian).

It is natural for the external environment to be in continuous motion, in constant change and fluctuation, which has a corresponding effect on the living organism, prompting the nervous system to produce new conditioned reflexes, new responsive reactions. Hence, the whole of the animal's nervous activity is the result of long historical development and continuous adaptation to the environment, with conditioned reflexes constantly developing into unconditional and relatively stable reflexes.

It follows from this important fact that the most complex phenomena of the psychical life and activity of organisms are caused by the decisive influence of external objects; they are determined by material factors and the conditions of the organism's existence. All this bears out the materialist conception of the essence of psychical phenomena, of the essence of consciousness; at the same time, it refutes the mystical and idealist inventions about "free will", "arbitrariness" and "chaos" of psychical life.

Not only theologians and idealist philosophers, but also some scientists in the capitalist world, being influenced by religious-idealist philosophy, take an unscientific view of psychical phenomena and the essence of consciousness. Take the British physiologist Charles Sherrington. In his book, *The Brain and Its Mechanism*, which appeared in the 1930s, he maintained that the human brain has no relation to the mind. Pavlov proved that Sherrington's contention was groundless and described it as dualist and unscientific. But in 1940, Sherrington published another book, *Man on His Nature*, in which he put forward mystical ideas about the "incorporeal substance" of the soul and its transcendental astral origin. He claimed that man's soul "has come from the stars" and takes its substance from the sphere of stars, where divine reason reigns.¹ How, we may ask, could a learned physiologist utter such unscientific, mystical, religious nonsense? He did it under the thrall of the prevailing unscientific, religious-idealist philosophy, which corrupts the world outlook of many people, including distinguished scientists, and seeks to gain an influence over scientific thought, to subordinate science to religion.

¹ Ch. Sherrington, *Man on His Nature*, Edinburgh, 1955, pp. 41, 45.

§ 3. The Social Nature of Human Consciousness. The Activity of Consciousness

Pavlov's teaching about the character and specific of human thought from the standpoint of its physiological basis is of extraordinary importance, because it disproves all idealist-religious notions of the psyche and of human consciousness and substantiates conclusively the dialectico-materialist conception of consciousness.

Pavlov proceeds in his theory from the profoundly materialist idea that all nature is a unity, that the living world is a unity, that animal and man are a unity. To begin with, he points to such phenomena common to animals and men as sleep, hypnosis, various hypnotic phases, neuroses, psychoses, and the like, and establishes that they derive from common causes in man and the higher animals. "The most general foundations of the higher nervous activity determined by the cerebral hemispheres are similar in the higher animals and in men," says Pavlov. "This is why the elementary phenomena of this activity must be the same in both, be the cases normal or pathological."¹

The upbringing and education of men, the various forms of men's disciplinary activity and their various habits are nothing but "long series of conditioned reflexes". Pavlov stresses the unity of the natural world, and makes the following profound and interesting inference: "Are not the movement of plants towards light and the search for the truth by mathematical analysis phenomena essentially of the same order? Are they not the last links in the almost endless chain of adaptations proceeding throughout the living world?"² This profoundly scientific idea of the unity of the whole material, natural world presupposes and requires that the qualitative difference of each stage in the development of nature, in each sphere of the natural world, should be clearly determined. The theory of the higher nervous activity conclusively demonstrates the qualitatively different

¹ I. P. Pavlov, *Lectures on the Work of the Cerebral Hemispheres*, p. 423 (in Russian).

² I. P. Pavlov, *Twenty Years of Experience in the Objective Study of the Higher Nervous Activity (Behaviour) of the Animals*, Moscow, 1951, p. 22 (in Russian).

nature of human thought as compared with the elements of conscious activity among the higher animals. The lower sections of the brain are the bearers of innate unconditional reflexes, which are inherent in animals and men. The numerous conditioned reflexes, which influence the greater part of the lives of men and animals, have as their material foundation the cerebral cortex. From here on the difference between the consciousness of men and its elements in animals is qualitatively very great.

The immediate influence of the environment is signalled to the animal, says Pavlov, "almost exclusively by excitations and the traces they make in the cerebral hemispheres, transmitted directly to special cells of the optic, auditory and other receptors of the organism. This is also what we have in us in the form of impressions, sensations and notions from the external environment, both the general natural environment, and our social environment."¹ This receptive system, which is directly connected with sensory factors, is called the *first signal system of reality*, and is common to both men and animals. But analysis and perception of the external environment generally take place not only through immediate stimuli, but also when these are replaced by words, a faculty possessed only by men, as distinct from animals. Pavlov developed the brilliant conception of the *second signal system*, which is qualitatively different from the first and is peculiar to none but the human brain. "In the developing animal world," he said, "an extraordinary addition was made to the mechanics of nervous activity in the human phase. . . . The word constituted the second, specifically human signal system of reality, being a signal of first signals. Numerous excitations by the word have, on the one hand, drawn us away from reality, and we must always bear this in mind and must not let it distort our attitude to reality. On the other hand, it is the word that made us men."²

He points out, too, why the word plays this role. Owing to the whole preceding life of man, he says, the word is connected with all the external and internal stimuli transmitted

¹ I. P. Pavlov, *Selected Works*, p. 527 (in Russian).

² *Ibid.*

to the cerebral hemispheres, and can therefore evoke all the reactions of the organism to these stimuli.

The first signal system, which is peculiar also to animals, is connected with "concrete sensory images", while the second deals with "abstract verbal concepts", which is peculiar only to the human brain, to human consciousness. Pavlov emphasises the tremendous role played by the second signal system in the life of human beings. What is more, in man's case all "the complex relations have already passed to the second signal system", which is the truest and oldest regulator of vital relations. It should be borne in mind, however, that the principal laws governing the work of the first and second signal systems must be common to both "because it is the work of the same nervous tissue".

The theory of the second signal system, which is connected indissolubly with the first, is of great importance to philosophy. It helps to determine the qualitative difference of human consciousness from the elements of conscious activity in the higher animals from the standpoint of the material substratum of thought processes. On the basis of this theory we can distinguish human thought as the highest form of consciousness from the elements of consciousness in animals by the following points:

first, man is capable of articulate speech, which expresses thoughts in the form of words;

second, human thought is abstract and occurs in the form of scientific abstractions and generalisations, which distinguishes it from the elementary conscious activity of the higher animals directly connected with the senses and incapable of abstractions;

third, human thought is capable of apprehending its own activity; none but human beings are able to appraise and analyse the process of their consciousness, to assess their sensations, notions, ideas, theories, etc.;

fourth, human thought is social and active, in contrast to the "adaptive" higher nervous activity of animals. This feature is crucial, and distinguishes man's consciousness quite distinctly from that of animals.

Man's active efforts to alter nature take the form above all of labour activity, and it is this which underlies the origin and development of the second signal system and the whole

of man's consciousness in all its forms, from sensation to theoretical thought.

Man's consciousness, which is a function of the brain, of his second signal system, is simultaneously a *product of social life*. The human brain is the material substratum of consciousness, but the function of thinking develops in man in the process of labour and social activity. The human consciousness took shape, and developed, in man's social life, in labour and in the social relations between men. "Consciousness," wrote Marx, "is, therefore, from the very beginning a social product, and remains so as long as men exist at all."¹

In contrast to the biological forms of reflection inherent in animals, human consciousness is a social mode of reflecting reality. Man's qualitative difference from animals is that he does not appropriate the ready products of nature passively, that he alters nature in the process of his labour. Adapting nature to his needs, man also alters himself, and produces in himself new requirements. Animals, too, alter nature by their activity in one way or another, but they do it unconsciously, by instinct. Even the higher animals, says Engels, alter nature simply by their presence, whereas man alters nature by his conscious actions and makes it serve his needs. The evidence of natural science is insufficient to fully define the essence of consciousness, because it is more than a physiological phenomenon and is not equivalent to mere nerve processes. *Social phenomena and the social environment* in which man lives play a most important part in generating consciousness, for it is in the social sphere that the interaction between man and nature takes the form of labour.

Some animals, too, are known to engage in activity resembling work. But there is a fundamental point of difference. To begin with, labour differs from the instinctive activity of animals in that man alters the objects of nature with implements of labour. In contrast to animal activity, human labour is not always aimed directly at satisfying some need. This is evidenced above all by the manufacture of artificial implements of labour, which is man's chief point of difference from animals. Manufacture of implements of

¹ Marx and Engels, *The German Ideology*, Moscow, 1964, p. 42.

man do not immediately satisfy man's biological needs is the objective basis of the capacity of his consciousness to go beyond the immediate, external properties of objects reflected by his sense-organs and to penetrate beneath the surface of things and into the essence of phenomena.

Human labour and its purposive nature are the basic features that distinguish man from animals and have been the main cause whereby the higher species of apes changed into men. Engels says in his article, "The Part Played by Labour in the Transition from Ape to Man":

"Labour is the source of all wealth, the political economists assert. And it really is the source—next to nature, which supplies it with the material that it converts into wealth. But it is even infinitely more than this. It is the prime basic condition for all human existence, and this to such an extent that, in a sense, we have to say that labour created man himself."¹

Engels points out that many hundreds of thousands of years ago there lived an unusually developed species of anthropoid apes. The changes in natural conditions led them to descend from the trees and live on the ground. The change of habitat made them abandon the habit of walking on all fours and acquire a more upright posture. This was a decisive step in the transition from ape to man. Skeletons of apes accustomed to living on the ground were discovered in South Africa and named *Australopithecus*. They lived in herds, walked on two legs, and used ready natural objects for self-defence and for hunting other animals. They were yet incapable of making the simplest implements of labour, and were one of the transitional forms from ape to man. On acquiring the use of its hands, the anthropoid ape gradually learned various new skills and habits in the use of ready natural objects, which it gradually improved and fashioned into implements. The casual and irregular use of implements turned into a regular habit for this type of ape, becoming a labour instinct passed down from generation to generation.

Initially, labour was by nature an animal instinct, subject to the laws of the formation and development of purely animal reflexes, both conditioned and unconditioned. This

¹ Marx and Engels, *Selected Works*, Vol II, Moscow, 1962, p. 80.

was not labour in the strict sense of the word, for ~~labour~~ is distinguished by the fashioning of implements of labour rather than the simple use of ready natural objects. The next stage in the evolution of anthropoid apes was marked by the use of primitively altered objects. Marx said that the making of means of labour is a specific feature of the human process of labour, although practised in embryonic form by some species of animals. From this hour on, there appeared and began to develop human consciousness as such, including thought, which is its highest form.

Alongside labour, the formation of language, of articulate speech, played an immense part in the emergence of man and human thought. Language itself appeared in connection with the labour activity of primitive men. The development of labour brought the members of the community more closely together, for it enabled them to extend their joint activity and to support each other. Labour relations gave rise to the need for primitive men to speak and communicate with each other.

First labour, then articulate speech, were the two chief stimuli under the influence of which the brain of the ape gradually changed into the human brain.

Language exercised a powerful influence on the development of consciousness and the formation of logical abstract thought. The knowledge man accumulates is deposited in words, and thus becomes a social acquisition every man can use. Words consist of an external vocal shell and an internal significative content or meaning. The shell without content is not a word. Meaning is a reflection of objective reality registered in the sounds of language. This is why the form of language possesses real meaning and is a universal means for the expression of thoughts in the process of human intercourse.

In contrast to the modern philosophy of semantic idealism, which tends to dissociate linguistic forms from thought and from the objects themselves, depriving them of all real meaning and content, dialectical materialism acknowledges the important role of language in man's thinking and practical activity.

Human language and every other system of symbols is a means of reflecting reality, a means of forming thoughts, concepts, scientific theories, etc., and a vehicle of their

hends himself as a subject of cognition and an active remaker of reality, an independent personality. This is clear evidence of the fact that self awareness was not innate in man, but took shape in the process of mankind's historical development, first and foremost on the basis of man's social activity and labour.

These dialectico-materialist propositions, backed up by investigations in history and natural science, make invalid the psycho-analysis theory of Sigmund Freud, the prominent Austrian psychologist, which is so popular today, especially in the United States. This theory hinges on the concept of the unconscious, which is totally based on instincts and ostensibly determines not only the individual life of a man, but also his social and cultural life. This would imply that the social and cultural environment has no bearing on the formation of man's consciousness and is, conversely, itself a product of mysterious, unconscious and mystical forces implanted in the "depths" of the human psyche.

Dialectical materialism, for its part, holds up the significance of man's *consciousness*, which reflects the wealth and multiformity of the surrounding world and takes shape under the latter's determinative influence. The role of instincts in man's life is considered secondary and subordinate. Man's consciousness is by nature social in origin and in content. When society breaks up into opposed classes, when an antithesis appears between mental and manual labour and spiritual activity attains a rather high historical level, social consciousness assumes more definite and concrete forms. It takes the shape of the political ideology of a social class, the shape of juridical consciousness, of religion, philosophy, ethics, art, and science. These basic forms of social consciousness constitute the rich and contradictory spiritual life of society, its ideal sphere, which reflects in multifarious concrete forms and manifestations the material life of men, their social being and their class and social interests. Such is the *essence of the Marxist-Leninist view of consciousness, which exists in man's real life as social consciousness*.

The determinative dependence of consciousness on social being does not mean, however, that it is passive and that it mechanically follows the development of being. That is the notion expounded by vulgar materialism. By contrast,

dialectical materialism regards consciousness as an active and creative process, as a purposive activity of the human cognising subject. It proceeds on the basis of man's practical activity, on the basis and in the process of man's work of altering the world.

In the course of his practical activity, man sets himself definite goals and tasks which require an appropriate approach. The quest for this approach activates human thought and directs man's reason to the most effective and correct solutions, which call for a flexible mind, for an analysis of the various possibilities and the selection of the most suitable.

In the attainment of his practical aims, man has to create various notions, conceptions and theories which are the product of his activity. A kind of "advance reflection" occurs in respect to reality when man's consciousness moulds a system of diverse concepts and ideas. These become a theoretical asset, frequently not employed in practice until much later, when man sets out to attain definite objectives set beforehand. Marx said that to man a conscious purpose "gives the law to his *modus operandi* to which he must subordinate his will".¹

It should be borne in mind, however, that conscious human activity is not, as the neo Kantians contend, an arbitrary "play of spiritual forces", but a purposeful activity of the mind based on man's practical efforts to remould the world.

The dialectico-materialist view of consciousness as an active and creative process contradicts the *behaviourist* conception of consciousness, which is especially popular in the United States. Nominally, behaviourism implies the study of the behaviour of animals under the influence of external stimuli. The behaviour of animals, and of men too, is said to be the sum total of the body's responses to external stimuli, under whose influence the animal organism engages in purely mechanical exercise. Hence rejection of the conscious activity of animals and men, which is dissolved in the mechanical responses of the organism. There is no indication whatsoever of any activity of the consciousness, or of man's reason. The behaviourist view of the psychical activity of

¹ Marx, *Capital*, Vol I, Moscow, 1939, p. 178

animals and men is purely mechanical, over-simple and vulgar.

The modern critics of Marxist philosophy, notably Gustav A. Wetter and Josef de Vries, who are bent on refuting the dependence of consciousness on matter, claim that materialism is unable to explain the *synthesising* role of man's reason, because it denies the existence of the "ideal substance", that is, the spirit.¹ They fail to reckon with the scientific cognition of the complex and multifarious activity of the cerebral cortex, whose cells possess not only high-precision *analysing* faculties, but also the faculty of *synthesising* the testimony of the senses, of integrating and generalising the results of known data and facts, and, what is more, also of *synthesising the ideal forms* (notions, ideas, etc.) into whole *theoretical systems* and broad, ramified *conceptions*. All this is evidence of the creative faculty of consciousness as the corresponding activity of billions of brain cells, of their associations, of their connections, and their deep intrinsic unity in the structural and functional framework of the cerebral cortex.

In view of the strikingly rapid strides made by cybernetics and computation techniques over the last few years, some scientists are proposing to construct an *electronic brain* to replace the human one. The possibilities of cybernetic devices are practically unlimited and the future is sure to witness some *spectacular advances* in this field. Still, we must not approach the machine and the human organism as though they were identical, which is just what the electronic-brain enthusiasts are doing. Here is what F. H. George, a major cybernetics expert, says on this score:

"We are concerned with a strictly behaviouristic viewpoint, and whether or not the word 'thinking' is appropriate. . . the processes inside humans and those inside *possible machines* are capable of being made the same."²

¹ See Gustav Wetter, *Sowjetideologie Heute. I. Dialektischer und historischer Materialismus*, Frankfurt am Main, 1962, S. 62-68; Josef de Vries, *Die Erkenntnistheorie des dialektischen Materialismus*, München-Köln, 1958, S. 143.

² F. H. George, *The Brain as a Computer*, Oxford, London, New York, Paris, 1961, p. 32. The same ideas are in principle, though in a more cautious form, expressed by the founder of cybernetics, Norbert Wiener, in his book *Cybernetics*, Cambridge, Mass., Technology Press, 1948.

Yet this is really impossible in principle. In many ways, it is true, cybernetic machines excel the human brain. For one thing, they are able to perform hundreds of operations in a second. But in contrast, the human brain engages in creative activity, it produces ideas, conceptions and notions, it sets goals and tasks for the creative alteration of man's environment, and it also works out all the programme lines, which are invariably the basis of the operation of cybernetic machines and of their subsequent self-regulation. What is more, being the result of man's scientific and technical activity, the machine cannot substitute for the human mind as a product of social life and the social relations between men, on the basis of which the brain develops and improves as an organ of conscious activity. For this reason, we should always bear in mind the fundamental qualitative difference between the machine and the human brain, while recognising the boundless opportunities for improving cybernetic machines as scientific and technical units

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The dialectico materialist view of consciousness as a historical product of the development of matter, as a product of men's social labour activity, and as an active creative process, has a great bearing on practice. Let us note the following three points

First Like the key propositions of dialectical materialism on the material unity of the world, on matter and its forms of existence, so is the proposition that matter is primary and consciousness secondary, and that consciousness is a function of highly-organised matter, of extraordinary importance for the moulding of the scientific world outlook of the working class and all working people. For centuries, idealism and religion have thrived on the fact that psychical processes were specific by nature and that man did not know the causes of the conscious activity of men and animals. The teaching of dialectical materialism on the essence of consciousness, based on the summit achievements of modern science, equips progressives with a correct, scientific outlook on the nature of consciousness and reveals the groundlessness of the unscientific idealist and religious ideas about the soul, the "divine" essence of consciousness, and the like.

This deals a powerful blow at the reactionary ideology of modern clericalism, which has to be combatted in behalf of the scientific dialectico-materialist world outlook.

Second. Dialectical materialism demonstrates the social nature of human consciousness. It arises, takes shape and develops under the decisive influence of man's labour and social activity. Therefore, man's consciousness is neither isolated nor individual in the sense of being "free" or independent of social relations and the social environment. The view that consciousness is a product of social relations implies that the revolutionary awareness of the working class and the working people has to be cultivated not in the abstract theoretical plane, but above all in direct practical struggles, within the framework of the existing social relations, in the environment of conflict between various class forces and in active revolutionary struggle.

Lenin pointed out repeatedly that the masses learn best from their own experience and that their revolutionary consciousness is moulded and tempered in dealing with practical revolutionary tasks. This is one of the most important principles of Leninism repeatedly confirmed by the experience of the world revolutionary movement.

Third. The conception of consciousness as an active and creative process also has a strong bearing on practice. As we know, human consciousness, being a product of social relations, does not follow changes in society in a mechanical and passive way, but exerts a strong active influence on society.

In all their practical work, the revolutionary parties must bear in mind that the class struggle, the national liberation movement and socialist and communist construction will get no truly scientific leadership, unless the great role of the conscious activity of men, their will and energy, and their organisation in dealing with the historical tasks facing society, are properly taken into account.

All this is further evidence of the great theoretical and practical significance of a correct, scientific understanding of the essence of consciousness and its connections and relationships with matter, with the surrounding world.

Chapter Four

MATERIALIST DIALECTICS, ITS PRINCIPLES AND BASIC LAWS

§ 1. Dialectics as a Science and Method of Revolutionary Action

Marxist literature uses the term "dialectics" for the scientific theory and philosophical method of cognising and transforming phenomena of reality. Materialist dialectics and philosophical materialism form a complete unity and constitute two sides of the single Marxist philosophical doctrine. A consistently materialist view of nature, society and thought leads inevitably to scientific, materialist dialectics. Materialist dialectics recognises the material world, and the objective laws of its motion and forms of existence. Universal connection and development are the most important general laws governing the material world. These general laws of the material world constitute the basic content of *objective dialectics*, that is, *the dialectics of material objects, of their relations and processes*.

Scientific dialectical thinking, or *subjective dialectics*, as a system of concepts, categories and laws reflects the objective dialectics of nature and society. The objective laws of nature and society are a concrete expression of the universal connection and development of the material world. This is an important point, for it helps us understand the seemingly different definitions of dialectics as a science. In his *Dialectics of Nature*, Engels underlined the basic content of dialectics and called it *the science of connections*. In another book, *Anti-Dühring*, he observed that dialectics is *a science about the most general laws of motion and the development of nature, human society and thought*. In Lenin's article, "Karl Marx", dialectics is described as an all-embracing, comprehensive and *profound doctrine of development*. These key definitions give an idea of the general nature of dialectics as a science.

The definition of the subject of dialectics gives expression to the basic difference between the Marxist and bourgeois philosophies. The various trends in bourgeois philosophy regard dialectics at best only as a method of thought. Thus a West German philosophical dictionary interprets dialectics as "the art of argument, the science of logic".¹ Hegel's dialectics is described as "motion which lies at the basis of everything as the true spiritual reality and, at the same time, the movement of human thought". A similar definition is given in an Argentinian dictionary, which defines dialectics as "a philosophical science which studies *reason and its laws*".² This is all. No mention is made of the laws of reality. In a debate on dialectics in Paris several years ago between Marxists and existentialists, the latter maintained that dialectics belonged to just the sphere of thought. A similar viewpoint is expounded by the revisionist Henri Lefevre in his book, *Problèmes actuels du marxisme*.

This is scientifically groundless, because it denies the dialectics of the objective world. The laws governing the development of the world surrounding us are themselves dialectical by nature, quite independently of man's consciousness. What is more, the dialectics of thought, dialectics as a science, takes rise from the *reflection* in man's consciousness of the real dialectics of nature and society, without which the very existence of dialectical thought and its laws would have been impossible. The objective dialectics of the material world is an essential precondition for the development by man of subjective dialectics in the course of his cognition of the world.

However, dialectics as a science is a form of human thought. In this sense dialectical thought is subjective, constituting the activity of man as a cognising subject. But this subjective side of dialectics must not obscure the main fact, namely, that it is objective in content and origin. The content of dialectical thought is objective, because it is nothing but a reflection of the dialectics of the objective world. The laws of dialectics constitute a unity in content; they are the laws of the dialectical development of nature, of society and of thought.

¹ *Philosophisches Wörterbuch*, Stuttgart, 1937, S. 100.

² *Nuevo Diccionario enciclopédico ilustrado*, Buenos Aires, 1960, p. 543.

Reducing dialectics to "the art of reasoning", to dialectics in "consciousness", is scientifically groundless and has nothing to do with Marxism. Modern bourgeois philosophers pursue a very definite aim by denying the dialectics of the objective world. They want to destroy the scientific dialectics of Marxism-Leninism, emasculate its objective content and deprive the working class of its strongest weapon—revolutionary dialectics as a method not only for scientific cognition, but also for transforming the world. However, it is impossible to destroy Marxist-Leninist dialectics. It exists and keeps developing with the development of the material world and scientific cognition. This is just what the bourgeois ideologists dread most. So they try to distort Marxist dialectics, and to strip it of its scientific content and revolutionary essence.

The strength and vitality of Marxist dialectics are so great that even the most reactionary bourgeois ideologists are compelled to admit it. Here is a typical example. Jakob Hommes, the West German Catholic philosopher, declares: "World dialectics acts today on the scene with terrifying force."¹ What he implies is the dialectics of Marxism, which he sets out to debase, distort and present in a false light. He says that Marxist dialectics is an instrument of "subjectivism and violence" and that Marx, along with Hegel, is a "subjective idealist".

His reference to Hegel is not accidental, for Hegel's name is now often used in the struggle against Marxist materialist dialectics. Bourgeois philosophers deliberately identify Hegelian dialectics with Marxian dialectics, and thereby endeavour to "refute" and distort Marxist philosophy.

This is an outright perversion of scientific facts. Although we attach very great importance to Hegel's dialectics and to its role in moulding Marxist dialectics, we say distinctly that the two are diametrically opposed to each other.

First of all, in contrast to Hegel, let alone the modern bourgeois philosophers, Marx and Engels deduced their dialectical concepts and laws from natural and social reality and not from any abstract ideal sphere. Their materialist dialectics summed up the history of social experience and

¹ J. Hommes, *Krise der Freiheit Hegel Marx Heidegger*, Regensburg, 1958, S. 8

scientific knowledge Lenin noted that Marx and Engels made a brilliant step forward in the history of revolutionary thought, for they applied materialist dialectics to political economy, history, natural science, philosophy, and the strategy and tactics of the working class.

Not only does Marxism deduce theory from practice; it also uses theory to promote the revolutionary transformation of the world. Materialist dialectics makes an objective and profound analysis of reality and shows the historically transient character of everything, including the forms of social life. Hence, the revolutionary and critical character of materialist dialectics and its incompatibility with any kind of opportunism. Living Marxist dialectics theoretically substantiates the historical place and role of the proletariat, the inescapable downfall of capitalism and the inevitable advent of world socialism.

Marxist dialectics demonstrates the laws governing social progress, the revolutionary prospects of the peoples and the ways and means of their struggle for liberation. This is why materialist dialectics constitutes the revolutionary soul of Marxism; it is a scientific theory of development, and at once *a method of cognising and transforming reality.*

A philosophical method is a definite method and means of cognition which enables us to apprehend most fully, deeply and thoroughly the laws governing the processes in nature and society, and to plan our actions accordingly to achieve our goals. Materialist dialectics is just such a scientific method of Marxism-Leninism

Scientific methodology is the application of the principles of the dialectico-materialist world outlook to the process of cognition and socio-historical practice. The outlook itself—dialectical materialism as a whole—is at once a theory and a universal method of scientific cognition. The special role played by dialectics in the world outlook is that it formulates *the most general categories and laws, and also the concrete terms and principles of the scientific method and its application to all spheres of human endeavour.*

In origin and content, scientific dialectical thought is a historical product of objective dialectics. It is not the fruit of subjective thinking or of the free play of the human mind. Materialist dialectics generalises the objective laws of the world and links the specific laws of thought with the

motion of objects and the practical influence of society on the objects of world.

• Unscientific bourgeois philosophy is incapable of producing a universal philosophical method. Its incapacity to do so derives from the traditionally idealist line it draws between the material world, cognition, thought and men's activity.

Bourgeois philosophy has specific, isolated doctrines for the problems and laws of being (ontology), the problems of cognition (gnosiology), and the laws and forms of thought (logic, chiefly formal) The science of values (axiology) is another independent philosophical theory. This is evidenced even by the subheadings in philosophy textbooks published in the non-socialist world—ontology, axiology, metaphysics, theory of knowledge.¹

The break thus created between material being, cognition, thought and the practical activity of men is a clear indication that the metaphysical method is dominant in contemporary bourgeois philosophy. By metaphysics Marxist literature implies an anti-dialectical method based on a one-sided, subjective and contemplative comprehension of the motion of reality without necessary connection, without an intrinsic source and without the prospect of dialectical development. For these reasons, metaphysics is objectively limited as a method of cognition and cannot serve as a guide in scientific and practical activity. The dominance of the metaphysical method in bourgeois philosophy shows that the imperialist bourgeoisie has no adequate scientific philosophical method of cognition and of solving the vital problems of social life.

• The problems of scientific methodology are of foremost importance these days. The growing role of materialist dialectics as a scientific method rests on two current inter-related processes—the social and the scientific and technical revolutions. The great social revolution of our time, the transition from capitalism to socialism and communism on a world scale, represents a triumph of knowledge and of the use of the objective social laws, and is a basically new stage in man's growing control over his social relations. The current scientific and technical revolution, for its part, is an

¹ See *Introducción a la filosofía*, Sucre, Bolivia, Univ de San Francisco Xavier, 1955

indication of the unprecedented growth of man's power over the elemental forces of nature. These cardinal developments confirm the dialectical character of all the processes in nature, society, human thought and scientific cognition. They also corroborate the Marxist scientific method and accentuate its paramount importance.

Scientific method, philosophical cognisance, the art of profound analysis and purposive action, and deep knowledge and skilful use of the laws and categories of dialectics are vitally necessary in our time.

A social movement is always an arena of conflict between the interests of different social groups, of changes in the *balance of class forces, and of contradictory tendencies in the content and forms of development.* Lenin said that every epoch has its partial advances and retreats, and various deviations from the average type and from the average rate of motion.

It is impossible to find one's bearings in the diversity and conflict of phenomena prevailing in society and to plan the best revolutionary course of action without a scientific method. This is why an analysis of the objective dialectics of the contemporary historical epoch is of fundamental importance for the prospects of world social development. Such an analysis is given in the programme documents of the Communist and Workers' Parties. They draw most pertinent conclusions about the *dialectical character of the transition from capitalism to socialism, the variety of forms of the revolutionary reconstruction of the old society, the peaceful and non-peaceful ways of socialist revolution, the relation of the problems of war, peace and revolution, and the like.* These key political conclusions set forth in the documents of the world communist movement have touched off acute ideological and practical controversies.

The Catholic philosopher Jakob Hombres says that it is essential to work out the political face of modern dialectics. Bourgeois ideologists do indeed falsify the true regularities in social phenomena, and spread various anti-communist theories designed to justify and defend capitalism. The conceptions of the *"industrial society" and of the evolution of socialism and capitalism to a "single economic system"* are metaphysically hidebound and subjective. The fundamental difference between the two systems is made to "disappear".

Catholic ideologists have put forward the anti-dialectical doctrine of "humane economics", a kind of cross-breed of socialism and capitalism which will allegedly replace the existing economic systems.

The struggle against this kind of unscientific social conceptions, and the interests of the revolutionary reconstruction of reality, call for knowledge and skilful practical use of the scientific dialectical method.

The other reasons for the growing role of scientific methodology are also associated with the demands of the revolutionary reconstruction of the world. The current epoch is highlighted by a rapid development of the natural and social sciences. We are witness to great discoveries, revealing the secrets of nature here and in outer space. Man has sallied forth into space, ushering in a new era in the conquest of nature. The scientific and technical revolution is producing new methods of processing natural raw materials and obtaining effective synthetic materials. World science is on the threshold of controlling thermonuclear processes, which will give man inexhaustible power resources. The social sciences, for their part, are tackling the problem of the rational regulation and control of social processes in the conditions of the world socialist system. Social sciences have to probe and reveal the complexities and contradictions of the present historical epoch. These grand tasks cannot be solved without a scientific methodology.

The achievements of the social and natural sciences, the progress of production and the results of the world revolutionary process are extending and enriching the content of Marxist philosophy, and giving meat and bone to the postulates, principles, categories and laws of the modern scientific philosophical method.

Let us note the relations of the philosophical method to the methods of the various sciences. The philosophical method is based on universal objective laws. To use Lenin's phrase, its concepts, principles and categories express the "laws of nature and of man" and are therefore necessary in all spheres of man's activity. In other words, the scientific philosophical method is universal, whereas the particular and special methods of investigation and cognition apply to just concrete spheres or in certain respects.

The universality of the philosophical method is the source

of its social reconstructive nature. The scientific philosophical method is not the method of a select few, of scientists and public figures, but the instrument of the general reconstructive effort.

Francis Bacon, the distinguished English materialist, said method is the torch that lights the traveller's way in the dark. The method of materialist dialectics may, in this sense, be compared to a bright beacon for the working people on the highway of scientific and social progress.

The need for a revolutionary scientific method also arises from the confrontation of the communist and bourgeois ideologies. The various trends in bourgeois ideology that capitalise overtly or covertly on isolated scientific facts or social developments falsify the true content of scientific cognition and the prospects of social progress. To expose the scientific fallacy and reactionary political purport of the conceptions produced by the bourgeois ideologists, one needs to master the Marxist dialectical method.

The main content of Marxist methodology is expressed in the basic principles, laws and categories of materialist dialectics, which we shall now proceed to examine.

§ 2. Basic Principles of Materialist Dialectics and Their Practical Importance

Scientific principles are the initial and determinative propositions reflecting and generalising the most important and essential aspects of man's cognitive and practical activity.

Philosophical principles are the sum total of the most general postulates and basic ideas which characterise the understanding of the world and man's attitude to it at a given level of knowledge and socio-historical practice. Among these principles of dialectical and historical materialism are principles of the materiality of the world, partisanship in philosophy, the unity of theory and practice, and others.

The concrete principles of materialist dialectics spring from its content as a science of the most general types of connection and the universal laws of the motion and development of the material world, and of its cognition. In

content, the principles of materialist dialectics as a universal method of cognition are an adequate reflection of the most general aspects of the objective dialectics of things and processes, including the process of cognition. The basic principles of Marxist-Leninist dialectics are methodological requisites essential in scientific and revolutionary practice.

In his *Philosophical Notebooks*, Lenin specially defined a number of the key requisites of the dialectico-materialist method. Let us examine those of the greatest importance for revolutionary practice.

The Principle of Objectivity in the Examination of Things and Processes This principle flows from the fact that objects, bodies, processes and the relations between them exist outside and independently of the cognising subject. This is why human notions and ideas must correspond to the objective nature of things and processes, their dialectical connections, motion and development.

Engels described principles as the end result of investigation and said they are true only insofar as they correspond to nature and history. This means that principles are not a sum of arbitrary rules, but a reflection of the objective in the mind—the outcome, the conclusion, of man's cognitive and practical activity. The principle of objectivity in the approach to the world constitutes the basic difference between the method of materialist dialectics and the abstract idealist approach, subjectivism and bourgeois objectivism.

Let us examine in this context the opposite approaches to the essence of the contemporary epoch, for this is of great importance for theory and practice. Bourgeois ideologists with their idealist and subjectivist approach are unable to produce a scientific criterion for the definition of the epoch. One of them, the West German philosopher and historian Adolf Grabowsky, declared that "each epoch has a concrete content, a definite idea, and on such a scale it is possible only to assume what the epoch is about".¹ Other bourgeois philosophers and sociologists offer as the criterion a multiplicity of causes and factors. For example, Francisco Larroyo, President of the Thirteenth International Congress

¹ A. Grabowsky, *Raum, Staat und Geschichte*, Köln-Berlin, 1960, p. 30.

of Philosophy, described the present epoch as an epoch of technology, a general and particular crises, planning, collective anxiety and alarm. Karl Jaspers, the official Bonn existentialist philosopher, names the development of the atom bomb as the centre of the epoch, while many others do not define the epoch and its criteria at all.

Objective examination of the diverse social phenomena, social tendencies and class forces makes it possible to define scientifically the essence and content of the modern epoch. The main thing, said Lenin, is to establish "*which class stands at the hub of one epoch or another, determining its main content, the main direction of its development, the main characteristics of the historical situation in that epoch*".¹ The class which is the chief productive and determining social force of our time is the working class. It is the mainspring of the transition from capitalism to socialism on a world scale. It is the modern working class that determines the main historical tendency of the current stage of development, its historical framework, and the movements of the anti-imperialist tide. The subjectivist attempts on the part of the modern "Left" revisionists to minimise the great historical role of the international working class and its product, world socialism, which is becoming the decisive factor in the development of human society, are therefore groundless and futile.

The dialectico-materialist principle of objectivity is also incompatible with narrow bourgeois objectivism, which confines itself to the registration of disjointed facts, superficial aspects and events of social life. It makes no theoretical class analysis, and *does not penetrate the intrinsic nature of phenomena*. Nor does it draw any practical revolutionary conclusions. It avoids partisan assessments and thereby condones the existing social injustice. This means that the method of bourgeois objectivism is unscientific and, as Lenin warned, liable to be a source of opportunism. The method of dialectical materialism is qualitatively different from objectivism; its scientific investigations are taken to the point of cognising the intrinsic nature of phenomena and from there to practical revolutionary conclusions and actions.

This calls for a definition of the socio-economic basis and

¹ V. I. Lenin, *Collected Works*, Vol 21, p 145.

content of the historical process, of the class contradictions, and of the decisive role of the social class which determines the main tendency of the historical process. These are the very factors that underlie the analysis and definition of the contemporary epoch set out in the documents of the world communist movement

The principle of objectivity is applicable, too, in all other spheres of men's activity. It is highly important in reference to the conscious, plan-governed building of socialism and communism. While the motion of the pre-socialist formations was spontaneous, new society is being built on a scientific basis highlighted by the ever mounting role of the subjective factor. The role of the subjective factor is increasing by virtue of the expanding knowledge and use of the objective laws of nature and society, the much greater experience of conscious and deliberate intervention in elemental processes, the expansion of the mass of active reconstructors of the natural and human world, and the development of new forms of the purposive initiative and organisation of the masses. Sometimes, this generates illusions of "complete freedom" from objective conditions and laws

Contempt for the principle of objectivity in analysing reality and appraising the results of one's activity leads to serious mistakes. If the role of the subjective factor is made absolute in the theoretical sphere, it will lead to subjectivism and voluntarism, with the result that the objective conditions and laws are ignored. In social and practical affairs, personal and group activity is then excessively inflated, prompting wrong, subjectivist decisions and methods.

The subjectivism and voluntarism generated by the social conditions of exploiting society assume the form of bourgeois individualism and become a typical subjectivist mode of thought and action, of behaviour. The social environment of socialism, on the other hand, is not conducive for subjectivism to become a permanent and typical phenomenon, a method of cognition and action. In their documents, the Communist Party and the Soviet Government condemn "volitional" decisions, subjectivism and voluntarism, and underscore the need for combining the mounting role of the subjective factor, the initiative and organisation

of the masses, with a sober analysis and fidelity to the objective economic and social laws of socialist society.

Consequently, the dialectical principle of assessing things and processes objectively is not mere theory. In the practical context it is a scientific norm for every member of society and a principle of behaviour linked with the moral standard of proletarian internationalism and collectivism. In revolutionary action, the principle of objectivity ensures a scientific analysis and close consideration of the wide range of multifarious social phenomena in their connection and development.

The Principle of Universal Development. In the world around us, in all its social and natural phenomena, everything is in motion, in change and in transition from one state to another. This determines the historical approach to phenomena and the need to analyse the processes of the development of reality. This is of cardinal importance for a correct understanding of the phenomena surrounding us and for effective orientation in practical human activity.

The countless changes in the world are dissimilar in character and direction. Some of them are transition from the simple to the complex, from the lower to the higher, and constitute upgrade, progressive motion. Others are reverse, downgrade, regressive motion causing simplification and disintegration of complex material objects.

The terms "motion" and "development" are often used in an identical sense. In fact, they have a great deal in common as far as their content is concerned, but there are also some differences. Motion connotes change in general, irrespective of its character, direction or results. The term "development" is narrower in scope than motion and does not embrace all the changes occurring in the world. Development is motion in a specific direction; it is upgrade motion, which is a determining trend of development, though downgrade, regressive processes may also occur. Development implies the materialisation of intrinsic tendencies and a radical change in the nature of phenomena, a negation of the old and affirmation of the new. This is what makes development contradictory and dialectical. Development occurs in certain conditions, which differ in the cases of inorganic matter, living nature and human society. Because of the specific of material objects in each of these spheres of the

material world, development has specific features from sphere to sphere. It is highly important to take account of, and analyse, these distinctions from the scientific, theoretical standpoint and in the context of practice. The latter is essential in order to work out the specific tactics of working class parties in the various countries and for different conditions of struggle.

But for all the distinctions and peculiarities of the processes of development in the various spheres of the material world, they all have the common feature of being profound qualitative changes in phenomena of nature, society and thought. In this sense, development is universal and unfailingly impelled by the endless motion of matter.

Lenin's proposition on the *two conceptions of development* helps us understand the causes and special features of the various processes of development. It is impossible to deny the development of nature and society, but the mere acceptance of this fact does not yield a correct scientific understanding of development. In his *Philosophical Notebooks* Lenin said that in the 20th century everyone accepted the principle of development, because such acceptance was made compulsive by science and revolutionary practice. But it is interpreted in different ways. There are two basic approaches to development, two conceptions of it—the metaphysical and the dialectical.

The basic antithesis of these two conceptions was set forth by Lenin in a fragment entitled, "On the Question of Dialectics". He wrote:

"The two basic (or two possible? or two historically observable?) conceptions of development (evolution) are: development as decrease and increase, as repetition, and development as a unity of opposites (the division of a unity into mutually exclusive opposites and their interrelation).

"In the first conception of motion, *self-movement*, its *driving force*, its source, its motive, remains in the shade (or this source is made *external*—God, subject, etc.). In the second conception the chief attention is directed precisely to knowledge of the *source of 'self'-movement*.

"The first conception is lifeless, pale and dry. The second is living. The second *alone* furnishes the key to the 'self-movement' of everything existing; it alone furnishes the key to the 'leaps', to the 'break in continuity', to the 'transfor-

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proletariat and all the working people coincide with the scientific, dialectico materialist view of the processes of development both in nature and in society. Conversely, the historically doomed social class, which is fearful of its future, is bent on perpetuating its domination, obscuring the actual state of affairs, distorting the laws of reality, concealing all the contradictions of society and, above all, perverting the character of its development. This is ultimately the very thing that determines the antipodal conceptions of development expounded by bourgeois philosophers and by Marxists Leninists

The dialectico materialist conception of development is set forth in the principal laws and categories of Marxist dialectics, which is a truly *scientific theory of development*.

The Principle of Universal Connection. In the objective world things and phenomena are inseparably linked and to a varying degree dependent on, and conditioned by, each other. In his *Dialectics of Nature*, Engels wrote that the interconnection of the motion of separate bodies, their interdependence, is the first thing that leaps to the eye when we examine moving matter. Lenin described this interdependence and indissoluble connection of phenomena, which impels the single law-governed world process of motion, as one of the characteristic features of dialectics. For this reason, all phenomena have to be viewed from the standpoint of their internal connection and interdependence, this being one of the basic principles of a scientific, dialectical analysis.

Scientific cognition of the world is cognition of the diversity of its phenomena in the light of their various interconnections and relations. All nature and all the social world is a single cohesive whole. Universal world connection is, at the same time, an expression of the universal regularity governing the development and motion of the real world. It expresses the interaction of all material and ideal processes in their historical development.

In nature, this internal connection is seen in the process of evolution from inorganic to organic matter; the emergence of living organisms; the interaction of the animal and plant kingdoms and the world of microorganisms; the material dependence of living organisms on their environment; the interaction of material and ideal processes, that is, the dependence of the psychical activity of animals and men

(for all their qualitative difference) on the material physiological basis and the conditions of their existence.

The whole of nature is a single diversity of infinitely complex and interrelated phenomena.

In social history universal connection is even more complex and manifests itself chiefly in the continuity of material production and the unintermittent development of the material productive forces. It is also expressed in the fact that all aspects of the life of society as a single complex social organism act on one another and that they are connected with nature through production. The multiformity of social connections may be illustrated by the world political system, in which there are such principal connections and relations as those between the socialist countries within the world socialist system, between the socialist states and the developing countries of Africa, Asia and Latin America; between the socialist and the imperialist states; between the imperialist states and the developing countries; between the various imperialist states, and between the economically undeveloped countries of the various continents. These connections and relations are highly diverse, contradictory and complex, and make the subject of a special investigation later on.

Social life reveals other highly diverse types of connections and relations, namely, those between economic and political processes, between war and politics and war and economy, between political and ideological phenomena, between various forms of ideology, between the material and spiritual culture of society, etc.

All these are real connections and relations of the real world, of moving matter, which, for all its diversity, comprises a unity.

In contrast to the scientific materialist view of the universal connection of the world surrounding us, idealism and religion regard the connection of phenomena as an expression of their common relation to the transcendental, ideal force, the universal idea, universal reason, God. This is the view held, for example, by the modern Catholic philosophers, who refer the connection of things in the world to the one "divine universal reason", which is said to establish general "harmony". This is an unsubstantiated conjecture of "divine harmony", typical of the old and "new" forms

of religious philosophy, the antipode of the scientific outlook

A specific science would never succeed in investigating the complex diversity of types of connection. The various concrete types of connection and their laws are the subject of the concrete natural and social sciences. *Materialist dialectics concentrates above all on the most general connections inherent in all the processes of the objective world.* It examines the internal and external, essential and non-essential, direct and indirect relations of the material world on the basis of, and in connection with, the principal laws and categories of dialectics. Analysis of the various types and forms of connection is of great practical value, because, in particular, it enables us to distinguish essential, internal and determinative connections from external, casual and secondary ones

The dialectico materialist conception of the universal world connection plays an important role in science and practice. Speaking of *the importance of the principle of universal connection*, Lenin described it as *the foremost and basic rule of scientific investigation* in general, and of Marxist dialectics in particular.

The Marxist conception of universal connection requires us to consider what Lenin described as "the sum total of the multifarious relations of one thing to others" and to take into account that connections and relations in the objective world are mobile and changeable. They assume now one and now another concrete shape, depending on the changing conditions of their existence.

The Principle of Concrete Historical Analysis. New aspects, qualities, properties and connections appear in things and phenomena in the process of development. Hence the need of a concrete historical approach in analysing the phenomena of nature and society, which should be viewed in the context of their dependence on concrete conditions, and of place and time.

This is a fundamental principle of Marxist-Leninist dialectics with a strong bearing on practice

Lenin said concrete analysis of a concrete situation was an essential component of the dialectical approach to real phenomena. "The whole spirit of Marxism, its whole system," he wrote, "demands that each proposition should be

considered (α) only historically, (β) only in connection with others, (γ) only in connection with the concrete experience of history."¹ Lenin warned that it was practically impossible to take into account all the complex and diverse forms of interconnection, but that the effort to take them all into account safeguarded science and practice from stagnation and bias.

In this respect, dialectics is antipodal to one-sidedness, eclecticism and sophistry. *Eclecticism* is an inconsistent and unprincipled jumble of heterogeneous, often incompatible, views. It substitutes a formalistic muddle of "connections in general" and a mechanical compound of heterogeneous elements for a concrete historical analysis of connections. Dialectics is also antipodal to *sophistry*, which ignores the many sidedness of connections and is a false inference based on deceptive and ambiguous constructions. It applies the aspects and connections of some phenomena to other phenomena, while ignoring the concrete conditions, the time and place, and the stage of development of the phenomena and processes in question.

In his book, *The Proletarian Revolution and the Renegade Kautsky*, Lenin stressed that dialectics was worlds removed from eclecticism and sophistry. He pointed out that dialectics was concrete and revolutionary, whereas the eclecticism and sophistry of the opportunists of the Second International pandered to the bourgeoisie by slurring over all the concrete and precise elements of the class struggle. This also applies to the modern opportunists, whose theories of "democratic socialism", "pure democracy", "mixed economy", etc., attempt to reconcile the interests of the proletariat with those of the bourgeoisie, and pile heterogeneous, even contradictory, elements into a single heap.

Eclecticism and sophistry are also exploited by the modern revisionists, the Right-wing opportunists in the communist movement, as a methodological basis for their anti-Marxist views. As in the past, revisionism keeps paying lip-service to the "new". But the "new" and "special" are used merely as a cover for revising the Marxist-Leninist teaching and its key principles, which the revisionists declare to be outdated. The modern Right-wing revisionists disguise their departure from Marxism by claiming to respond to the

¹ V. I. Lenin, *Collected Works*, Vol. 35, p. 250

"latest" developments in society and the class struggle, and use this excuse to reject the revolutionary principles of Marxism, ministering thereby to the bourgeois-reformist ideology in the communist movement. For example, on the strength of the proposition that revolution can take a non-violent course in some countries, they totally reject socialist revolution and proletarian dictatorship, committing an outright betrayal of the revolutionary theory of Marxism.

Marxism-Leninism is opposed not only to revisionism, but also to dogmatism, which is blind and uncritical acceptance of outdated propositions, dogmas and stereotypes. Dogmatism, or Left-wing opportunism, ignores the changes that occur in developing reality. It takes cover behind professions of fidelity to Marxism-Leninism and employs ultra-Left terminology doing great harm to revolutionary theory and practice. The leftist sectarian distortions of Marxist-Leninist theory prevent the creative use and development of Marxist-Leninist principles, and their enrichment with new propositions reflecting concrete features and peculiarities of the world revolutionary process. The dogmatists overlook the fact that the balance of world forces has tilted in favour of socialism; they prefer to ignore the radical shifts in the class structure of socialist society and prattle about class struggle in the U.S.S.R.; they denounce higher living standards as bourgeois degenerations, etc. In effect, by opposing the propositions of creative Marxism they become "Left-wing" revisionists. In practice, dogmatism and sectarianism stand for passive temporising or reckless quasi-revolutionary, frequently nationalist, anti-socialist action. This is doubly dangerous if tied up with nationalist sentiment, with chauvinism and the craving for hegemony.

The dogmatists scorn Lenin's most important methodological precepts. "For the present," Lenin wrote, "it is essential to grasp the incontestable truth that a Marxist must take cognisance of real life, of the true facts of *reality*, and not cling to a theory of yesterday, which, like all theories, at best only outlines the main and the general, only *comes near* to embracing life in all its complexity."¹ Dogmatism, which shuns dialectics, fails to grasp this need for a concrete historical approach to the developments of reality.

¹ V. I. Lenin, *Collected Works*, Vol. 24, p. 45.

From the universal connection and the development of social phenomena Marxist dialectics infers the important proposition about the *main link in the chain of historical events*. By the main link in the chain of historical events we mean the key task in a given stage of man's revolutionary reconstructive activity in a definite sphere of social life. To define this main link we have to (a) single out from among the *multiform objective connections* the *internal connection* which makes the course of events follow a definite trend; (b) determine the degree to which the course of events coincides with our revolutionary reconstructive goals; (c) define the main link as the key purpose of our revolutionary action in the given sphere of social life. In his book, *What Is To Be Done?*, Lenin said that the art of the political leader consists in finding and grasping the link in the chain which is least likely to be torn out of his hands, which is the most important at the given moment, and which best secures possession of the whole chain.

Lenin's proposition on the key link in the chain of historical events is an important principle in the activity of the Communist Parties. The century of experience of the communist movement shows that Marxist parties are fully capable of providing political leadership to the proletariat. The key tasks put forward by the parties are consistent, clear and conclusive, and assure success in the struggle against the exploiters.

The ability to single out the key link, the most important task at a given stage, is a highly important factor in the activity of the C.P.S.U. in the present conditions. The building of the material and technical basis of communism is the key link in the chain of economic, social and cultural tasks of current Soviet development. Fulfilment of this key task will ensure the fulfilment of many other tasks of communist construction.

The historical experience gained by the C.P.S.U. and the Communist Parties of other socialist countries helps the Marxist Parties to determine the concrete key tasks of the revolutionary struggle in their own countries. To be sure, the key domestic tasks, the main links in the political, economic and ideological spheres, may not coincide from country to country and at different stages. At the same time, the common tasks of the world communist movement

change at different stages. Owing to the strengthening of dogmatism and intensification of splitting activities, the main link in organisational and practical work at the present stage is the struggle to cement the unity of the communist movement; in the ideological sphere the key task is to combat dogmatism and reactionary nationalism, which impair the unity of the revolutionary forces against imperialism, the chief enemy of the nations.

Their concrete historical approach to social phenomena and their skill in defining the main links in the chain of historical events enable the Communist and Workers' Parties to enrich Marxist Leninist theory with new revolutionary experience and to develop and apply it creatively in the diverse and complex conditions in which they work.

These basic principles of Marxist dialectics are elucidated in its main laws and categories.

§ 3. The Laws of Dialectics Reflect the Universal Connection and the Development of the World

Law as a Concept. To understand the essence of the laws of dialectics we must first see what the concept "law" implies. A law was described by Lenin as "one of the stages of the cognition by man of unity and connection, of the reciprocal dependence and totality of the world process".¹ A law gives expression to the general, necessary, essential and relatively stable recurring connections of the real world which, given the corresponding conditions, determine the character and direction of development. The Marxist-Leninist conception of "law" is a reflection in the human mind of objective, necessary and law-governed connections and processes in nature and society.

It should be borne in mind that dialectical materialism draws a distinction between the concepts "law" and "regularity" in the objective world. Certainly, law and regularity are concepts of the same type and order, because they reflect the internal connections of reality. However, a law is a definite aspect of regularity, while regularity is the aggregate of the laws operating in a given sphere of phenomena or in the world as a whole. As a universal concept, regu-

¹ V. I. Lenin, *Collected Works*, Vol 38, pp 150-51.

larity is the general result of the action of a definite system of laws. In his *Philosophical Notebooks*, Lenin remarked that laws and concepts "embrace conditionally, approximately, the universal law-governed character of eternally moving and developing nature".¹ Thus, every law of dialectics expresses a definite and most general connection of the objective world. In their totality the laws of dialectics express the general dialectical regularity of the world.

A law is a form of universality in nature and expresses the similar or identical features common to a group of objects and phenomena; it is a unity of multiform phenomena. Within the framework of each form of the motion of matter there operate laws embracing more general and less general aspects. For instance, some social laws operate in all socio-economic formations, while others operate only in some of them. Take the law that relations of production must correspond to the character of the productive forces. This law applies to all formations, although it takes a different form in each. The law of surplus value applies to capitalism only and is a particular law for society as a whole. Consequently, laws may be general or particular in scope, and may express more general or less general connections and relations between things and phenomena.

Let us note while we are on the subject of the universality of laws, that the distinction between general and particular laws is somewhat relative. Thus, the general laws of nature are particular laws in relation to the more general laws of the material world, the basic laws of dialectics. On the other hand, the law of the unity of the organism and its environment, which is a particular law for the whole of nature, is general for the vegetable and animal kingdom. General and particular laws are indissoluble unities and constitute a system of laws.

The fact that a law embraces the *necessary connections of things and phenomena* is an important point. As the vital aspect of a law, necessity implies the inevitability of its action and result in specified conditions. The reproduction of definite conditions in the process of development, the recurrence of stable and relatively permanent connections, is the objective basis ensuring the inevitable effect of the law and

¹ *Ibid.*, p. 182.

its necessary result. Take the law of gravity. It expresses the inevitability of an object falling back to earth if thrown upwards at a small velocity. In social life, the law of class struggle expresses the inevitability of struggle between the exploited and the exploiters in antagonistic formations.

A law expresses not only the universal and necessary, but also the *essential connections of phenomena*, that is, connections which derive from the intrinsic character of the processes of the motion of the world, from their inner essence. Essential aspects and connections are those strong, stable and necessary inner aspects and connections without which the given objects or phenomena cease to exist. It is connections of this kind that constitute the concept of a law. It follows that in content law and essence are concepts of the same order, the difference being that law generalises the contradictory, internal, essential connections taken in a relatively stable, "quiescent" state. A law does not cover the whole content of an essence, let alone the diversity of external forms in which it manifests itself. It merely reflects the necessary motion of essences and their necessary relations.

Take the objective economic law of the proportional and balanced development of the national economy under socialism. It is a reflection of the constant, essential, necessary proportions between Department I (production of means of production) and Department II (production of consumer goods), of the proportions within these departments, between industry and agriculture, and between production and consumption. The action of this law ensures a continuous crisis-free development of social production and the most rational use of all material and manpower resources under socialism. Violations of this law take the form of partial and temporary disproportions and discrepancies in the development of the various sides and branches of the economy. Hence, it is the job of the planning bodies of the socialist state to ensure the proper operation of this law and to maintain the proportions necessitated by its objective operation.

The stability and constancy of the connections characterising a law are manifested by its recurrence under definite conditions, recurrence being another necessary feature of a law. Thus, in accordance with the law of gravity an object ejected at a great velocity becomes a satellite of the Earth

for a long time when it attains the speed of 8.2 kilometres per second.

The same may be said of other objective laws of nature and society. When we generalise the human property of reflecting objective reality through the sense-organs and the mind and observe its necessary recurrence, we arrive at the conclusion that social being is primary to social consciousness and define the laws of the reflection of being in consciousness. The recurrent stable relations in antagonistic class societies are the relations of the main classes marked by fierce struggle. The class struggle is a constantly operating law of development in those societies, whatever the bourgeois ideologists, reformists and revisionists may say to the contrary.

Men's conscious activity has a strong bearing on the operation of the laws of social development. It is expressed in decisions, in definite goals and in the choice of the ways and means of attaining these goals. Knowledge of the laws and of their effect enables us to check or accelerate the spontaneous course of social processes by our conscious activity. Purposeful and conscious efforts of the working people, good organisation of these efforts and proper mobilisation of all the energy of the masses brings closer the victory of the new over the old and outdated. The energy and struggle of the revolutionary forces can avert or stem the pressure of reaction and hasten the conversion of a favourable progressive possibility into reality.

As a rule, the ideologists of the reactionary classes deny the existence of objective social laws. Some U.S. sociologists explain social events from the pluralist standpoint, ascribing them to a multiplicity of causes rather than the operation of definite objective laws. Many of them take a candidly voluntaristic view. Prof. Adam B. Ulam of Harvard University says, for example, that there are no "historical or economic 'forces' or 'laws' standing over and above human volition".¹ He contends that volition is the determinative factor of social life. The volitional approach is also typical of pragmatism, which denies all objective regularity in history.

In contrast to bourgeois sociology and philosophy. Marxism-Leninism always proceeds from the existence and operation of objective laws of the material world and from the need of knowing and applying them in all practical human activity.

The Forms in Which Objective Laws Manifest Themselves and the Ways of Applying Them in Science and Practice. Objective content is the cardinal point in the definition of a law. The second point is that a law governs a specific character and trend of development. Speaking of a law of nature or society, we always imply a course of events that unfolds in a definite direction

The operation of a law necessarily leads to definite results. This is why it is important to know the forms in which the law manifests itself. Spontaneous operation is one of the most widespread forms. In the case of spontaneous operation the process is not regulated and people do not know, and cannot foresee, the eventual results. This is true, among other things, of the spontaneous action of the still unknown laws of nature and of the law of value in an antagonistic society.

In the communist formation with its high level of scientific knowledge, laws usually operate in the form of cognised forces. The cognised demands of the various laws coincide with men's activity and men are able to plan and call forth definite results. Frequently, a law asserts itself as a dominant tendency. A law's operation may be rapid or slow, complete or partial, and may have greater or lesser force.

There is also a third point, which is likewise important. It lies in that a law will manifest itself only under requisite conditions. By such conditions we mean factors essential for the inception, growth and development of given objects and processes. Any change in the objective conditions causes a change in the way the laws manifest themselves. A law's sphere of action may either shrink or expand, and the forms in which it manifests itself, as well as the results of its action, will change accordingly. If conditions change radically, one set of laws may be even replaced by another.

The tie-up between the operation of the objective laws of society and statutory laws constitute a special case, all too rarely examined. Statutory laws in a concrete society can be neither opposed to, nor identified with, the objective

laws. The *objective laws of society*, including the economic laws, exist independently of statutory laws and manifest themselves independently. Statutory laws and legal standards, on the other hand, are established by the state, which expresses the will of the ruling classes. They are subjective and class in character, and only in a developed socialist society do they express the coinciding interests of all society. However, even in the antagonistic formations statutory laws are not entirely subjective and arbitrary. In one way or another, their appearance is prompted by concrete objective economic relations. There is always objective content in statutory laws. Marx observed on this score that the content of this juridical, or volitional, relation is determined by the economic relation.¹

Being expressions of the will and consciousness of the ruling class, statutory laws may either accord or conflict with objective laws. Furthermore, in a class society legal standards are enforced by the compulsive power of the political superstructure and are amended, created or abolished by the state. This is the big difference between the inception, existence and manifestation of statutory laws and the objective laws of nature and society.

It stands to reason that knowledge of an objective law, the forms in which it manifests itself and the natural conditions in which it operates, puts great power into man's hands. To begin with, he is then able to assess unerringly the role of newly appearing conditions. Secondly, he is able to influence the objective conditions and thus influence the nature and results of the action of the law.

Knowledge of the conditions and trends in which a law operates furnishes a key to the way in which it may be utilised. The ways and means of utilising the objective laws of nature and society may differ, depending on the nature of the laws, the degree to which they have been mastered and the benefits man will gain from the results of their action.

On learning a *law of nature* and the various conditions in which it manifests itself, man is able to control the natural process. Controlling the processes of nature implies

¹ Marx, *Capital*, Vol I, Moscow, 1959, p. 84

that man consciously selects the definite concrete conditions and lets the law operate in the desired direction. Furthermore, man is able to restrict or eliminate a law's undesirable effects.

Take a chain reaction induced by the disintegration of radioactive elements. Man regulates chain reactions and in-tranuclear energy, confining them to a definite time, and to the desired effect (atomic power stations, atomic engines) by means of neutron absorbers. The law of heredity is utilised in a similar manner to breed new strains of animals and plants by an artificial selection of useful mutations.

Knowledge and utilisation of the laws of nature enable man to control natural processes, while knowledge and utilisation of the laws governing social development act as a powerful factor in the reconstruction of social life. Social laws manifest themselves in the actions of the mass of the people, the true makers of history. It has been noted earlier that by learning the laws of social life, the working class and its Party are able to influence the flow of historical events. This influence expands most saliently under socialism, because in the socialist environment the laws governing the social actions of people come under the people's immediate power and control.

The Conception of the System of Dialectical Laws. From these general principles underlying the conception of a law flows the relevant appreciation of *the laws of dialectics*, whose chief distinctive feature is that they are *universal*. They embrace the universal, essential and necessary aspects and relations implicit in all processes of motion and development. Unlike the laws of the concrete sciences, which have a strictly defined sphere of action, the laws of dialectics operate in all the fields of reality. The fact that the laws of dialectics are universal does not mean that they are unrelated to concrete phenomena: they are always concrete in the way they manifest themselves in concrete things and processes, in nature, society and thought. This does not detract from their universal character. Among these basic laws are the law of the unity and struggle of opposites, the law of the transition of quantitative into qualitative changes, and the law of the negation of the negation.

The law of the unity and struggle of opposites is the central basic law of dialectics. It is the substance of dialectics,

and its core, because it reveals the internal source of the self-motion and development of things and phenomena, the motive force of their qualitative transformations and the negation of the old by the new. Like all the laws of dialectics, it is universal and at the same time highly concrete. Every dialectical law expresses general, but at once quite definite, regularities in the motion of the material world.

All profound, universal and essential relations may be described as a kind of unity of opposites. In this sense, the *law of the transition of quantitative changes into qualitative ones* highlights definite relations in the nucleus of dialectics. It expresses a relation of opposites—of quality and quantity—and reveals the ways and forms of transition from the old state to the new.

Similar features may also be ascribed to the law of the negation of the negation. In its most general form, the struggle of opposites is a struggle of the old and the new. The specific content of the law of the negation of the negation is that it embraces the interaction, the struggle, between the new and the old, and that it reveals the character and direction of progressive development.

But apart from their basic content, objective processes of development are always accompanied by a wealth of other essential relations. This wealth of universal essential relations is reflected in scientific dialectics by polar (paired) *categories*. *Essence and appearance, content and form, the logical and the historical, the absolute and the relative, necessity and chance, the finite and the infinite, etc.*, are categories of this kind. They show the universal aspects and properties of things and processes in a definite essential relation.

Since the definition of any law of science always shows the correlation of definite categories, the correlation of polar categories of dialectics constitutes a definite law. In this context, we can speak of the law of causality, the law of the correlation of content and form, essence and appearance, etc. Consequently, polar categories complement the basic content of development quite substantially and act as non-basic laws of dialectics.

The categories of dialectics enable us to study exhaustively the whole diversity of the phenomena of the world

surrounding us, they reveal the most diverse connections and relations of reality, and are therefore of great cognitive and practical importance. In contrast to idealist philosophy and metaphysics, dialectical materialism takes these categories to be indissolubly interconnected, reflecting the real connections and relations of reality. This is precisely why they are so highly important to science and practice.

Thus, we have before us a definite scientific system of basic laws and categories of dialectics, which we shall now proceed to examine more closely.

§ 4. The Law of the Unity and Struggle of Opposites

The law of the unity and struggle of opposites is the most important universal law of dialectics; it reveals the objective source of the motion and development of all phenomena and processes of the material world. It is therefore of greater importance than the other laws of dialectics, which are based on it.

Let us begin our examination of this law by clearing up the questions of the source and essence of development. Every material system, object or phenomenon, consists of simpler parts, or elements, connected with each other in a definite way. The qualitative properties of the various elements and the nature of their interaction constitute definite aspects and tendencies within the material system. *These essential aspects and tendencies inside the object or phenomenon, which at once exclude and imply each other, are called opposites.* They also express the supreme distinction between the respective aspects and tendencies in the motion of things. In this context, the whole of reality, all of the natural and social world, is an endless diversity of various antipodal properties, aspects and tendencies.

The two poles of the magnet, the positive and negative electric charges, attraction and repulsion, the corpuscular and wave properties of matter, particles and anti-particles—all these are opposites in inorganic nature.

Assimilation and dissimilation, heredity and mutability, growth of new cells and atrophy of the old, are such opposites in living nature. Such opposite processes as excitation and inhibition are the basis of the activity of the cerebral

cortex. The situation and class interests of slaves and slaveholders, serfs and landowners, the proletariat and the bourgeoisie, are the opposites that highlighted the development of the exploiting social formations. These social classes originated from definite modes of production; they are indissolubly connected with each other, and imply and exclude each other in essence and content.

The connection and interaction of opposites within one and the same object or phenomenon helps us to understand their nature. "Proletariat and wealth are opposites," Marx wrote. "As such they form a single whole. They are both forms of the world of private property. The question is what place each occupies in the antithesis."¹ This is why dialectics speaks not simply of opposites, but of their unity and interaction. This unity may be viewed as a definite, objective and necessary interconnection of aspects or phenomena within some concrete whole. This whole is always a definite concrete unity of opposites with a qualitatively distinct character at given moments or periods of development.

The parts of the whole are always connected, and interact with each other all the time. This interaction is a *struggle of opposites*. The struggle of opposites is absolute; it never ceases and constantly upsets the temporary "equilibrium", stability and unity of opposites, making the latter no more than relative. The struggle causes qualitative changes in objects and phenomena and leads to the substitution of a new unity of new opposites for a given unity. The ceaseless struggle of opposites is the basis and the motive force impelling the inception and development of all processes and objects in the world.

The interconnection of the two aspects of the law—relative unity and absolute struggle of opposites—gives rise to a compound *dialectical contradiction, which constitutes the internal source of the motion and development* of all phenomena in nature, society and human cognition. Motion is self-motion of matter, meaning that its source is in the things, phenomena and processes of the real world.

In contrast to this dialectical conception of development, the so-called theory of equilibrium treats the unity of

¹ Marx and Engels, *The Holy Family*, Moscow, 1956, p. 51.

phenomena as an absolute and regards the state of equilibrium, rest and inertness as the main state in the world. According to the theory of equilibrium, not only objects but social processes as well, change their state only by external compulsion according to the formula: state of equilibrium—disturbance of equilibrium—restoration of equilibrium on a new basis. In place of the dialectic of actual development, this theory expounds a metaphysical state of quiescence and immobility in nature and society. It identifies unity with stagnation, with a conservative equilibrium, and considers unity at best only in association with gradual evolutionary changes.

It is easily seen that in practice the theory of equilibrium justifies conservatism and bourgeois liberalism, and stands up for the "smooth growth" of capitalism into socialism. As we know, such ideas are currently being propagated by the social-reformists, whose aim it is to safeguard the existing capitalist relations, that is, maintain the "equilibrium".

At this time of sharp ideological struggle, bourgeois ideologists and opportunists of all shades are intensifying their attacks on the chief law of materialist dialectics. They have always absolutised the unity of opposites in capitalist society, while rejecting the struggle of opposites, that is, the struggle of classes. Social-reformists and modern revisionists are striving to convince the masses with refurbished arguments of the need for "class harmony", class co-operation and bourgeois-proletarian communion. Capitalist social unity is expounded in the Declaration of the Socialist International entitled, "Die Welt von Heute: Der sozialistische Ausblick" ("The World Today in the Light of the Socialist Movement"). It says, in part, that the future belongs not to communism or capitalism, but to a democratic socialism which will encourage socially valuable private enterprises and efforts, that is, private capitalist relations. It avers, moreover, that the worst defects of capitalism have already been rectified and that society is calmly and freely marching to socialism.¹ It is to be inferred therefrom that the working class need not struggle against the social system in the capitalist countries. Such theories are obviously designed to

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¹ *Die Zukunft*, 1962, III, I.

disarm the working class ideologically and to justify and uphold capitalism as an "eternal" system

Modern dogmatism, which nominally opposes reformism and revisionism, goes to the other extreme. The dogmatists fail to see, for example, that the role and significance of social unity changes under socialism; they reject the necessary, even if historically transient, forms of social unity at a given stage and metaphysically maintain that an acute class struggle prevails in socialist society, failing to see the profound unity wrought after the abolition of the antagonistic classes.

The fallacy of the bourgeois theory of universal class reconciliation and of the dogmatic view on social unity cannot be properly demonstrated without the *Marxist conception of the transformation of opposites*. The most important premise for this transformation are the conditions corresponding to the opposites. Opposites should be regarded not as congealed and dead, but as living and mobile, transforming themselves into each other

In social life, the transformation of opposites may occur in different directions, depending on the conditions, the time and place. This applies to the transformation under capitalism of free competition into monopoly, of just into unjust wars and vice versa, of the bourgeoisie itself from a progressive force into a brake on history, a reactionary force, etc.

The real process of the transformation of social opposites has nothing in common with the dogmatic formula that opposites *change places*. Modern dogmatists often say: "The class of landowners holding the land is transformed into a class deprived of land", or "the bourgeoisie is transformed into a subordinate class and shifts to the position previously occupied by its antipode", or yet, "war gives way to peace . . . peace gives way to war".

The metaphysical view that opposites simply change places, that they are externally antipodal phenomena, obscures the process of development and the tendencies of that process. The conception of the struggle of opposites as a mere change of places is the basis of the modern dogmatist "theory of non-equilibrium". It is, in effect, a reverse form of the "theory of equilibrium". The "theory of non-equilibrium" is vividly expressed in the dogmatic scheme of unity—split—new unity on a new basis. Not only does

this falsify² the motive forces of development; it seeks to justify the splitting activities of the dogmatists and nationalists in the communist movement.

The dogmatic, vulgar and subjectivist conception of the dialectics of the transformation of social opposites is refuted by the historical experience of the socialist countries. Socialist transformations carried to their logical conclusion are alone able to work radical changes in the form of old social unity and eliminate the irreconcilable struggle of the social opposites of capitalism, leading to the establishment of a socialist society of free and equal working people. There is no "transformation" of the bourgeoisie into "a subordinate class". What actually occurs is its abolition as a class.

The conflict of opposites in the process of development assumes various forms, leading to a variety of contradictions in reality itself. In this sense, the term "*contradiction*" expresses the objective relation and connection between opposites as aspects or tendencies in the development of the object. The change in the relation between opposites also explains the fact of the development of contradictions, their varying intensity and the character in which they manifest themselves at the different stages of the development of phenomena.

Contradictions may be in different stages of development, and may have a different character, direction and intensity. All objects and phenomena have common and different aspects and properties. Above all, they are internally different, which is the first stage in the development of a contradiction, or an as yet undeveloped contradiction.

The further dichotomy of the single whole, the separation of its opposite aspects intensifies the distinction until it becomes essential. The developed essential distinction assumes the form of an antithesis; the antithesis, too, being the form of the developing contradiction, may grow, expand and become more acute.

Marx described the growth of a contradiction in his analysis of the dual nature of commodities. its dual existence, he said, "must develop into a *distinction*, and the distinction into an *antithesis* and a *contradiction*"¹

¹ Marx and Engels Archive, Vol IV, Partizdat, 1935, p. 67 (in Russian).

The relationship between town and country is a historical illustration of the dialectical development of contradictions. At the early stages of human history men had one type of habitat. With the development of production and class relations, the non-essential distinction between town and country developed into an essential one; then it became an antithesis and an antagonism. The contradiction between town and country implicit in the corresponding relationship of domination and oppression, was expressed in feudal times by the exploitation of the towns by feudal lords. Under capitalism, the countryside is being exploited by capitalists. This contradiction is a direct product of the socio-economic relations of exploitation.

The basic change in the essence of the social system wrought by the socialist revolution alters the nature and direction of the relation between the industrial and agricultural aspects of the unity of social production. In the socialist countries, the dialectical relation between town and country has assumed a different direction: from elimination of the antagonism and antithesis of town and country to an essential distinction, and through prospective communist construction to a simple distinction between them.

Defining the concrete stages in the development of social contradictions is highly important for revolutionary practice. Contemporary social contradictions erode and destroy the unity of the capitalist camp. It is mostly the rapid growth of world socialism that weakens and dooms imperialism. A similar part is played by the antagonism between labour and capital, the contradictions between the people and the monopolies, between the young national states and the old colonial powers, and between the imperialist powers themselves. An objective study of reality confirms the conclusions set forth in the programme documents of the communist movement that the world imperialist system is rent by deep and acute contradictions. These contradictions continue to grow and deepen, becoming more acute and developing into an irreconcilable conflict between the progressive, revolutionary forces and the forces of reaction.

Each contradiction passes the stages of inception, development and resolution. The opposites play different roles in each stage. One of them may be the principal aspect of the contradiction and determine the direction of development.

However, the other opposite will not be passive either, exercising a greater or lesser influence and sometimes acting as the *principal vehicle of dialectical development*. The opposites cannot ever fully neutralise or balance each other. Their coexistence and unity give rise to the tendency towards stability and the continuance of the basis of the phenomenon in question and their mutual negation and conflict to the tendency towards change and movement. These tendencies are reflected in concrete stages in the development of the contradiction, and their character determines the character and type of the contradiction.

The types of contradictions are classified in materialist dialectics by their specific nature, their character and their role in development processes. The most important of the many types of contradictions are the internal and external, basic and secondary, antagonistic and non antagonistic.

Internal contradictions are contradictions which express the relation between opposite aspects or tendencies within a given system, object or phenomenon. They play the leading part in the self-development of things and phenomena. External contradictions between various things, phenomena or their aspects are the conditions in which self-development takes place. It should be borne in mind that the difference between internal and external contradictions is relative and should never be considered as absolute. For example, in the concrete historical conditions of the national liberation movements the external contradiction with imperialism is often the foremost and decisive at some stage of the struggle. It follows that the connection between internal and external contradictions should always be taken into account in revolutionary practice.

It is still more important, however, to differentiate between basic and non-basic (secondary) contradictions in revolutionary strategy and tactics. *Basic contradictions are those internal contradictions which express the relations of the most essential, determinative aspects and tendencies of a given thing or phenomenon*. The relations of the non-essential aspects, on the other hand, are non-basic, secondary contradictions. Their elimination does not alter the essence of the given thing or phenomenon. The contradictions between the commercial, industrial and agricultural bourgeoisie, for example, frequently assume very acute forms,

but do not lead to any radical change in the capitalist mode of production. The basic contradiction of the capitalist mode of production, that between the social nature of labour and the private appropriation of the social product, is removed only by the victory of the working class over its social opposite, the bourgeoisie.

The following are the specific features of the basic contradiction of social development.

first, the socio-economic contradiction is always the basic contradiction in a class society;

second, it determines all aspects of the motion of the *given socio economic formation*;

third, it coexists with various contradictions at the various stages of development, and with non basic contradictions in the various spheres of social life.

For this reason, various countries have their own concrete combinations of *the basic contradiction of the development process as a whole, the determinative contradictions of the given stage and the non-basic contradictions of an antagonistic or non-antagonistic character*

Antagonistic and Non-Antagonistic Contradictions. The prime distinctive feature of social contradictions is that they may be antagonistic or non antagonistic. They arise objectively, on a definite economic basis, and are either consciously or unconsciously reflected in the minds of people, requiring them to take definite actions. This is why it is important to determine the basis and character of social contradictions.

Antagonistic contradictions are typical of the exploiting formations with their production relations of domination and subordination. In such formations, social opposites are irreconcilably hostile. Their relations take the form of extremely acute contradictions. These are resolved through social conflicts and, as a rule, through the elimination of the economic basis of the old society, which leads to the removal of the old socio-political forces and the abolition of the moribund reactionary classes.

The objective basis of antagonistic contradictions is the mode of production based on private property and exploitation. Marx wrote: "The very moment civilisation begins, production begins to be founded on the antagonism of orders, estates, classes, and finally on the antagonism of

accumulated labour and actual labour. No antagonism, no progress. Till now the productive forces have been developed by virtue of this system of class antagonisms."¹ The antagonism of classes is the leading contradiction and the motive force of the development of antagonistic societies. The antagonism of classes is most strikingly evident in capitalist society. The aims, tendencies and class interests of the bourgeoisie and the proletariat are hostile and irreconcilable.

The antagonism between the proletariat and the bourgeoisie, says Marx, will continue to be the struggle of class against class, a struggle which, carried to the highest degree of intensity, is a full revolution. Only a full socialist revolution can resolve all the contradictions of capitalism, because it abolishes capitalist property.

The approach to the antagonistic contradictions of modern capitalist society reveals strongly expressed class interests. The ideologists of the bourgeoisie subscribe to two nominally antithetical standpoints, which, however, both proclaim that capitalism is everlasting. To the masses, they peddle a theory that the contradictions of the capitalist society can be reconciled and smoothed over, and blandly deny the existence of antagonisms. This call to reconciliation lies at the root of the bourgeois theories of "equilibrium", "organised capitalism", the "transformation" of capitalism into socialism, and the theory of "integrated industrial society".

The bourgeois economist Paul Samuelson (U.S.A.) says in his *Economics: An Introductory Analysis* (1961) that all the existing social systems have one and the same modern economy. The social systems, he says, differ only in their forms of administration. He endeavours to prove that modern highly industrialised countries (capitalist and socialist) have no distinctions or contradictions in production, and that the whole world is advancing to an "integrated industrial society". Instead of revolution, he recommends free choice of the best forms of administration. The "industrial society" theory received strong support at the Fifth World Sociological Congress (1962), notably from U.S. sociologists.

It is natural that the convenient and fashionable theory about the ironing out of contradictions is shared by many

¹ Marx, *The Poverty of Philosophy*, Moscow, 1966, p. 53

bourgeois philosophers, above all the neo-Thomists. They go out of their way to prove the thesis of the founder of their doctrine, Thomas Aquinas, that "nature does not allow contradictions". They deny the objective character of contradictions and throw together dialectics and formal logic, opposites and contradictions in thinking, etc. A West German neo-Thomist, Helmut Ogiermann, says "In our confrontation with materialist dialectics we must hold firmly to the principle that contradictions are deprived of any real meaning."¹ Hence the conclusion that there are no contradictions, and must be none, in the real world. What is more, it is dialectics—the "divine" dialectics which the Thomists are prepared to recognise—that entreats God to visit the lives of men and make possible and easy the kingdom of love among individuals in order to end the struggle between master and slave.² This is what the theologians say, whose purpose it is to secure the assistance of "divine dialectics", establish "harmony" in capitalist society, and eliminate the class struggle between "master and slave".

In the final count it is clear evidence of the fear felt by the modern bourgeois ideologists in face of the contradictions of our time, the revolutionary struggle of the masses against capital, and the real dialectics of life.

The problem of contradictions is exploited by bourgeois ideologists to defend and justify capitalism, and to falsify socialist reality and communist ideology. Typical examples are the books by neo-Thomists Jean-Yves Calvez, *The Thought of Karl Marx*, Gustav Weller, *Soviet Ideology Today. Dialectical and Historical Materialism*, and Maurice Merleau Ponty, *The Adventures of Dialectics*, etc. All of them, but for minor differences, deny the struggle of opposites within objective processes and phenomena as a source of development and seek to obscure the contradictions and antagonisms of modern bourgeois society.

Many bourgeois ideologists chime in with the modern revisionists in denying the decisive role played by objective contradictions in social development. Both are inclined to regard, say, state-monopoly capitalism as an embryo of

¹ H. Ogiermann, *Materialistische Dialektik*, München, 1958, S. 199.

² André Marc, "Méthode et dialectique". Collection *Aspects de la dialectique. Recherches de philosophie*, Paris, 1956, n. 28.

of men, which is why the methods of resolving them do not result in the destruction of any classes or social groups.

Non-antagonistic contradictions may sometimes occur in antagonistic class formations. Take the contradiction between the working class and the toiling peasantry under capitalism. But on the whole such contradictions are typical of socialist society, whose socio economic structure is basically different from that of capitalism.

When analysing the nature of the contradictions under socialism, we must bear in mind that the socialist system goes through definite stages of formation and development. Various contradictions arise and are resolved in these stages. The transition period is marked by a blend of the features and properties of the two antipodal societies, capitalism and socialism. This is why antagonistic and non-antagonistic contradictions exist in it side by side.

The basic contradiction of the transition period is the antagonism between the politically defeated but resisting capitalism, and the politically dominant but not yet fully consolidated socialism. In other words, it is a new form of antagonistic contradiction between the bourgeoisie and the proletariat, expressed in Lenin's famous formula: "Who will beat whom?" Irreconcilable class struggle by the proletariat in alliance with the peasantry against the forces of the old society is the main method of resolving this principal contradiction of the transition period. Under the dictatorship of the proletariat, the class struggle assumes special forms, in which the antagonistic and non antagonistic contradictions of the transition period are resolved.

The victory and establishment of socialism eliminates the antagonisms engendered by capitalism. The social contradictions of socialism become non-antagonistic. The objective basis of the non-antagonistic character of these contradictions is the social ownership of the means and implements of production, the community of aims and interests of the working class, the collective-farm peasantry and the socialist intelligentsia. It is a basically different foundation and content of social unity.

The development of socialist society takes place through the motion and resolution of non antagonistic contradictions, as was specifically pointed out by Lenin. "Antagonism and contradiction," he said, "are not the same thing at

all. Under socialism the former will disappear, while the latter will remain."¹

The practice of socialist construction reaffirms the fact that the new society is born in a struggle, in which the contradictions arise and are overcome in the various spheres of social life. The specific feature of the contradictions of socialism is not only that they are different in nature and not shot through with class antagonisms. The forms and methods of resolving these contradictions are different, too. Resolution of the basic antagonistic contradictions leads to the disintegration of the old social unity, the antagonistic class society, whereas resolution of the contradictions of socialism raises society invariably to a higher level. The contradictions between town and country, and between mental and physical labour, in the U.S.S.R. (now having the form of essential distinctions) are being resolved through joint development, improvement and the drawing together of opposites. The most important contradiction of socialism—that between the steadily growing material and spiritual requirements of the masses and the level of the production of material and cultural goods—is also being resolved in a similar fashion. The same applies to the contradiction between the forward looking socialist ideology dominant in the socialist countries and the survivals in men's minds of the capitalist ideology and mentality. It is being resolved by ideological and educational work, comradesly criticism and self criticism.

This gives the lie to the bourgeois philosophers who say the elimination of antagonisms in the U.S.S.R. has brought about the "death" of dialectics and that the Soviet Union has therefore "betrayed Marxism". Such contentions merely evidence gross ignorance of the qualitatively new character of development in socialist society.

The existence of diverse contradictions in the various spheres of socialist society does not in the least discredit socialism; on the contrary, it emphasises its viability and the prospect of rapid uninterrupted development. The pace of historical advance depends on how fast the new is able to ripen. We owe the accelerated social development under socialism to its fundamentally different economic basis and

¹ *Lenin Miscellany* XI, p. 357 (in Russian)

the new role of social unity in resolving contradictions.¹ Social contradictions are resolved on the basis of the practical experience and the creative endeavours of the masses, through criticism and self criticism, but also with the aid of scientific analysis and planned purposeful administration in every sphere of social life by the Communist Party and the socialist state. This is a new regularity in the development and resolution of dialectical contradictions in the socialist epoch, ensuring boundless progress for socialism itself, and for society's motion towards new, communist relations. It is also the fundamental distinction between the motive force of the non-antagonistic contradictions of socialism and the role and action of social antagonisms under capitalism.

Marxist dialectics also enables us to evaluate correctly the contradictions of world social development. The prospects of contemporary world social development are shaped by the relation of such opposites as the socialist and capitalist systems. Since "our time . . . is a time of struggle between the two opposing social systems",¹ the "basic contradiction of the contemporary world," says the Programme of the C.P.S.U., "is the contradiction between socialism and imperialism."

The basic contradiction is a reflection of the main content of the contemporary epoch—the transition from capitalism to socialism on a world scale. Socialism is becoming the decisive factor of world development and the main line of the development of the basic contradiction. Imperialism's sphere of domination and influence is shrinking, and it is losing its positions on all continents.

The basic contradiction of the present epoch springs from the internal contradictions of capitalism: the consolidation of socialism has shifted the social antagonism between the bourgeoisie and the proletariat to the international arena and it has now taken the form of antagonism between the opposite social systems. Hence the unquestionable connection between international and domestic social development. But the connection of the basic contradiction of the contemporary world with the internal contradictions of the socialist and of capitalist systems, is not identical.

¹ *The Struggle for Peace, Democracy and Socialism*, Moscow, p. 38.

The internal contradictions of imperialism and the basic contradiction between the two social systems have the same social essence—namely, profound antagonism between the bourgeoisie and the proletariat. Accordingly, the basic contradiction of world social development is exercising a decisive influence on the development and resolution of all the internal contradictions of imperialism.

The definition of the main contradiction of the present historical epoch is the object of a keen ideological controversy. Directly or indirectly, anti-communist ideologists deny the main socio-economic contradiction of our time and its determinative influence on man's destiny. More frequently than not they babble about the antithesis of political systems, forms and methods of government, the way of life, the "democracy", "freedom", and "humanism" of the capitalist system and the "totalitarianism" and "dictatorship" of socialism.

Anti-Marxist nationalist theorists are inclined to see a contradiction only between imperialism and the national liberation movement. Some of them maintain that the main contradiction of our time is that between the economically backward dependent countries and the highly-developed states. They favour the thesis that the main contradiction prevails between the "world village" (the Asian, African and Latin American countries) and the "world city" (the developed imperialist and (sic!) socialist countries).

These notions are based on false inferences and are politically reactionary. They spring from ignorance or deliberate falsification of the essence and perspective of our times. The contradiction with imperialism, it is true, has a strong bearing on the destiny of the dependent peoples at a definite stage of history. This is incontestable. But the elimination of the contradiction with imperialism, determinative at that stage, will not liberate the non-socialist world and the peoples of the dependent countries from their own exploiters. Nothing but a tie up between the national movement and the socialist outlook will yield the peoples true liberation. It is therefore incorrect to regard the contradiction between the national liberation movement and imperialism as the main contradiction of the present historical epoch as a whole, despite the immense importance of national liberation movements at the present stage. It is still

more unreasonable to substitute the fancied and abstract contradiction between the "world village" and the "world city" for the real main contradiction. If we did so, we should be unable to determine the main enemy and the direction of the main blow, or to define the relation of the revolutionary and reactionary forces of the social movement.

The peoples are coming to associate complete victory in the national liberation revolution, the elimination of age-old backwardness and the improvement of living conditions with non-capitalist development. This invigorates the cooperation of the main forces of the world revolutionary process—the world socialist system, the working class movement in the capitalist countries, and the national liberation movements. The main contradiction of the modern historical epoch is growing deeper and more acute, tending to accelerate the development, ripening and resolution of imperialism's internal antagonisms.

The internal contradictions of world socialism differ completely in social substance from the main contradiction of world social development.

The prime distinctive feature of the internal contradictions of world socialism is that they are *non-antagonistic in character*, which is conditioned by the new socio economic structure, the dominance of public property, the absence of exploitation and of class antagonisms, the similarity of political systems, and the identity of ideology, interest and purpose.

The second distinctive feature is that they are *contradictions springing from the growth of the new social system*, being contradictions of upgrade social development in contrast to the historically downgrade tendency of world capitalism.

The third distinctive feature derives from the fact that socialism is developing out of the old society and therefore retains certain "birthmarks" of capitalism. Traces of the past are observed for a certain time in the economy (the degree of development of the national productive forces, the existing specialisation, economic ties, etc.), in political and national relations, social traditions and way of life, the national culture, psychology and ideology. National conditions give rise to contradictions in the operation of the common objective laws of socialist construction. These are

particular, *historically short-lived contradictions* in individual spheres of social life, concerning individual problems in the relations between the countries of world socialism.

The fourth distinctive feature is tied up with the mounting role of the subjective factor in resolving objective contradictions. Conscious action by the masses and the scientifically grounded intervention of people in the spontaneous course of objective processes accelerate the solution of contradictions and the rate of historical progress. The unity and cohesion of the socialist countries, their mutual assistance, friendship and fraternity, enable them to *bring closer the levels of their socio economic development* and to surmount objective difficulties and contradictions by joint effort.

The nature of the socialist system also determines the form of its relations with the capitalist system—class struggle in the environment of peaceful coexistence. The peaceful coexistence of states with different social systems implies the objective necessity of all round co operation with the young developing states, maintenance of definite relations with the capitalist countries and determined struggle against the forces of aggression and war, which has the cumulative effect of strengthening world socialism, weakening the positions of imperialism and aggravating its internal contradictions. All of this creates more favourable conditions for the victory of socialist revolutions at the weakest points, the ganglions of contradictions, of the world capitalist system.

Revolutionary practice requires us to have a true knowledge of the connection between the basic contradiction of the contemporary world and the internal contradictions and prospects of socialism and of capitalism. Modern Right-wing revisionists interpret peaceful coexistence as a mitigation of the class struggle and a reconciliation of capitalism and socialism. The "Left" maintain, on the other hand, that peaceful coexistence is an obstacle to the working class and national liberation movements, and qualify it without rhyme or reason as "betrayal" of the world socialist revolution.

This subjectivist anti-communist thesis is entirely false. Peaceful coexistence is not a figment of the imagination; it is an objective effect of the law of the uneven economic

and political development of non socialist countries in the present epoch. The Marxists maintain firmly that the principle of peaceful coexistence is inapplicable to relations between oppressor and oppressed, between the colonialists and the victims of colonial oppression. It refers solely to the sphere of inter-state relations.

Furthermore, the policy of peaceful coexistence cuts the ground from under the reactionary ideologists of the modern bourgeoisie, who accuse communism of "aggression", "expansion", etc.

Here is a typical example. Bertram D Wolfe, an avowed anti-communist propagandist, declares that communism is a "combative ideology. At the core of things, it finds conflict, antagonism, clash. Progress (development) comes only through struggle". Wolfe draws the conclusion that Soviet policy cannot be a policy of peaceful coexistence, because the Soviet Union is "aggressive". This is a line of thought typical of bourgeois phalists, who are afraid of communism and slander it, being quite incapable of understanding the dialectic of contemporary life, the dialectic of our epoch.

The tremendous impact of Marxist-Leninist dialectics is rooted in the fact that it helps to reveal the contradictory essence of the contemporary epoch, to determine the motive forces of contemporary world development and to show the prospects of society's advance to socialism and communism

* * *

What then is the overall theoretical and practical significance of the law of the unity and struggle of opposites—this basic law of materialist dialectics?

First, the law reveals the essence of all phenomena of the surrounding world and ensures a truly scientific approach to the analysis of all processes of development in nature, society and human knowledge. This essence of all phenomena is shown to be a contradictory essence. To know it is to know the internal contradictions which are the determinative source of all motion and development. Such knowledge is truly scientific knowledge of all phenomena because no real cognition is conceivable without knowledge of the essence.

Second, it is highly important for scientific cognition and especially for practical activity and revolutionary struggle to know the nature of the various contradictions at the different stages of social development and in diverse concrete conditions. There are, above all, three periods in social development, with corresponding contradictions:

1) the period of capitalism, when antagonistic contradictions reign supreme in all the chief spheres of social life;

2) the period of transition from capitalism to socialism, when antagonistic and non antagonistic contradictions interweave;

3) the period of triumphant socialism with its non-antagonistic contradictions, when new motive forces arise in society and the general dialectical regularities of development acquire a qualitatively new character.

A concrete analysis of the nature of the contradictions is necessary not only for a correct appreciation of the essence of an epoch, but also for working out the ways and means of resolving various types of contradictions, each of which calls for a different approach.

Third, the law of the unity and the struggle of opposites is a sure and dependable guide in the contemporary complex and highly contradictory world situation, marked by struggle between diverse social forces. To understand the essence of the contemporary epoch is above all to grasp that it is internally contradictory, to apprehend the opposite tendencies in its development and their interaction and struggle at each stage.

This is necessary not only for an understanding of the character of the epoch as a whole (which is important in working out the overall strategy of the revolutionary forces in the contemporary epoch). It is impossible to work out a correct line of struggle for each Party in contemporary conditions without taking into account the decisive contradiction of the whole of the contemporary epoch, namely, the contradiction between socialism and capitalism on the world scene. The fact that socialism is the leading force in the development of all the contradictions of the contemporary epoch has a strong bearing on practice. It follows that the working class and the working masses must always rely on the great force of socialism and depend on its powerful and resolute support in their struggle against

capital, colonialism and all the forces of modern reaction.

A scientifically grounded strategy and tactics in the revolutionary struggle of the working class and its parties has to be based on a dialectical analysis of the contradictory essence of the present epoch.

§ 5. The Law of the Transformation of Quantitative into Qualitative Changes

The law of the transformation of quantitative into qualitative changes is one of the basic laws of dialectics, for it defines the ways and forms of development in all the spheres of the natural and social world. It represents a definite connection between the opposites of quantity and quality and expresses the leap like character of the transition from one quality to another. Before we go into the law itself, let us look at the concepts of quality, quantity and measure.

The objects of the surrounding world, with which man has to deal, are infinite in diversity. The first immediate distinction between objects is made by differentiating between the qualitative and quantitative aspects. Lenin described this way of cognition as follows. "First of all impressions flash by, then *Something* emerges—afterwards the concepts of *quality* (the determination of the thing or the phenomenon) and *quantity* are developed."¹ All these concepts have objective meaning and content.

Quality is the internal definiteness of objects and phenomena, the sum total of the stable characteristics which distinguish them from each other.

Thus, in Mendeleev's periodic table of elements each chemical element differs qualitatively from the others. The simple form of sensations enables us to distinguish the qualitative state of the chemical elements. Some are solids, others liquids, and still others are gaseous. Above, we have examined and established the qualitative distinctions of the chief forms of moving matter. There is a basic difference between the socio-economic formations, which represent the principal stages of social development.

¹ V. I. Lenin, *Collected Works*, Vol. 38, p. 319.

Quantity is the stable aggregate of the properties which distinguish a given object from another. *Properties* express the various aspects of quality and characterise the qualitative definiteness of the object in some particular respect. The various properties of an object are immediate expressions of its quality in relation to, and in connection with, other objects; this determines the nature of the interaction between them.

Apart from specific qualities, all objects and phenomena have a quantitative side. *Quantity is the definiteness of an object which expresses its size, volume, scale, degree of development, sum of parts, number of properties, etc.* Quantitative descriptions add considerably to our knowledge of things or phenomena, showing the relation of homogeneous parts to the whole, that is, a relation in which qualitative distinctions are non-essential.

Like quality, quantity is an objective property of objects, but takes the form above all of external definiteness. The external definiteness—the number (quantity) of shareholders of a capitalist enterprise—does not matter to a worker; what matters to him is the content and form of exploitation. But in some respects, the quantitative definiteness gives expression to important content, say, the level and rate of economic development, the amount of the national and personal income, the number of active members of the Communist Party, its social composition, etc.

It follows that the quantitative side of social phenomena is an important component of scientific analysis. Marx, for example, said in his analysis of labour "With reference to use-value, the labour contained in a commodity counts only qualitatively, with reference to value it counts only quantitatively, and must first be reduced to human labour pure and simple."¹

The qualitative and quantitative aspects play a different part in the process of development. When an object or phenomenon loses its properties it undergoes a substantial change. Its structure, nature and specific become fundamentally different, and give rise to new objects and phenomena. Change within certain limits in the quantitative side of things—size, volume, dimensions—does not work any

¹ Marx, *Capital*, Vol I, Moscow, 1959, p. 45

radical transformation and does not affect their internal nature.

The limit of quantitative change within which things retain their stable foundation and their old quality is termed measure. *Measure is the concrete expression of the unity of necessarily connected opposites, namely, the quantitative and qualitative sides of a given object or phenomenon.* Each thing has its definite measure, within the limits of which there may be fluctuation of quantity, while the given quality remains unchanged. Once quantitative change goes beyond these limits the given correspondence, or unity of quantity and quality, is upset.

This also determines the difference of *quantitative and qualitative changes as the two forms of development* proceeding in the world. Quantitative changes are non-essential, evolutionary changes which do not up to a point affect the internal nature of phenomena and do not change them radically. Qualitative changes, on the other hand, lead to fundamental transformations, as a result of which things and phenomena become entirely different and change their essence, that is, their internal nature. All these changes actually take place in the surrounding world.

But the most important point is that a deep mutual connection exists between quantitative and qualitative changes. This connection is law-governed: in the process of development quantitative changes lead to qualitative changes, and the latter are, in turn, impossible without a preliminary accumulation of quantitative changes. This is the essence of the dialectical law of the transformation of quantity into quality.

This law, like all the laws of materialist dialectics, is universal and objective—something the modern bourgeois philosophers endeavour to deny.

Thus, the U.S. philosopher Sidney Hook says that the law of the transformation of quantity into quality is not a law of nature, of the mind or of logic. To substantiate his contention, he writes that weight does not disappear to give place to a new quality when more stones are added to a pile of stones. This is no way to refute one of the basic laws of dialectics. The argument is much too primitive. Modern science provides increasing evidence that the transformation of quantity into quality occurs in all natural

and social processes. Take chemical transformations. The atoms of various chemical elements always combine in definite proportions, in definite quantitative relations. In this way, new compounds with new qualities are produced in nature and in chemical laboratories. A change in the proportion will at once yield different substances.

If, on the other hand, we compound the same elements in different proportions, we shall get different chemical compounds and substances with different physical and chemical properties.

This regularity underlies all chemical transformations. Engels aptly described chemistry as the study of the transition from quantity to quality.

Modern science provides a great number of facts to confirm this law of dialectics. Thus, a number of new chemical elements has been produced artificially.

Science established that all chemical elements differ from one another by the size of the positive charge of their atomic nucleus. This positive charge, in turn, depends on the quantity of protons it contains. Protons, you will recall, are the heavy particles of matter which carry a positive electric charge. This means that by changing the quantity of protons, and thereby the structure of the nucleus, we can obtain new chemical elements with new properties. Consequently, a change in quantity results, through a change in the structure of the atom, in a change of quality.

This is precisely how the new elements were obtained. There is the artificial element called neptunium. There is also plutonium, and others. Recently, scientists produced the 101st element of Mendeleev's table, it is the heaviest of all the elements known to man. The chief thing in all this is that each newly produced element differs qualitatively from all the others. Element 94—plutonium—is radioactive, and lends itself to the production of a nuclear chain reaction necessary for the practical use of atomic energy. In contrast to neptunium, the 93rd element, plutonium is a good "nuclear fuel" for the atomic industry. There again, a quantitative change clearly results in a salient qualitative change of the properties of a chemical element.

Similar regularities are observed in the development of living nature, where the vast diversity of animal and plant species and microorganisms is the result of ceaseless quan-

titative changes that brought about qualitative changes. The accumulation by the organism of new conditions incompatible with the old heredity, the old quality, engenders new species or leads to the destruction of old organic forms, that is, a transition to another quality.

Acting on this regularity, scientists and breeders in many countries have developed qualitatively new species of animals and plants. This is of great practical importance to human life.

In the history of humanity and in social phenomena, *the dialectical forms of social development* are of a highly complex character, and the transformation of quantity into quality is different there from the transformation of quantitative into qualitative changes in the development of nature. The distinction lies above all in that the qualitative transition from one state of society to another takes place as a result of human activity, the struggle of the working masses, the chief makers of history.

The whole of human history is a history of basic qualitative upheavals prepared during the period of preceding development, which is by and large quantitative. These basic upheavals during the transition from one society to another, from one social class formation to another, are of the nature of *social revolutions*. The revolutionary transition from the old society to the new is the most important dialectical regularity of man's history.

All the turning-points in history are illumined by the flames of revolution. "Revolutions," said Marx, "are the locomotives of history." They always usher in a qualitatively new stage in social development, in the development of nations and states. Social revolutions signify fundamental change in the political, economic and ideological spheres of human life. This is why they exercise a strong influence on the whole subsequent development of society.

However, as we have seen, all revolutionary upheavals, including socialist revolutions, which radically alter the course of human history, are never sudden and unexpected, but the result of long economic, political and ideological development in the preceding period. This development gradually sharpens the principal social contradictions to the extreme, and their resolution can be effected only by a radical revolution in the whole system of social relations.

Transformation of quantitative into qualitative changes in the development of society is the main line in the dialectic of revolutionary transitions from one socio-economic formation to another. Definite qualitative transitions occur also in various spheres of life within each social formation. Since they embrace only separate aspects of social life and do not alter its nature as such, they naturally do not—and cannot—take the form of a social revolution.

Thus, the following qualitatively different stages may be noted in the development of capitalist production: co-operation—manufactory—machine production—modern industry of the time of the latest scientific and technical revolution. Each stage is qualitatively different from the preceding one, but is also the result of the entire preceding development and is closely bound up with the earlier stages. But such qualitative changes do not signify any radical changes in the development of capitalism as a socio-economic formation, because the essence of the capitalist relations of exploitation remains unaltered. This holds up the lie to the bourgeois and reformist contentions that in view of the latest scientific and technical achievements in production capitalism has been entirely “transformed” into a “new society”.

Qualitative changes occur continuously also in the development of the communist formation. The development from the first phase of communism to the second, higher phase of communist society, is a qualitative transition of tremendous importance. It involves qualitative changes in various spheres of social life. First, in the sphere of economic relations the two forms of socialist property (state and co-operative) are giving way to one communist form of property of the entire people, second, the socialist principle of distribution according to work done gives place to the communist principle of distribution according to need; third, the distinctions between the two socialist classes, and between them and the intelligentsia, are removed and society becomes a single communist society of working people; fourth, socialist administration changes gradually into communist self-administration by the entire people, etc. All this is an expression of society's transition to a qualitatively new historical stage of development in the process of which

there will be more new qualitative changes as communist relations themselves develop ceaselessly and are improved.

The opposite tendencies in the character of the qualitative changes occurring in the development of capitalism and socialism originate from their specific contradictions. In the first instance, these changes express the ever sharper capitalist contradictions and lead ultimately to the downfall of the bourgeois system. In the second instance the regularity is different. qualitative changes in the development of socialism gradually lead to ever better social relations: they demonstrate the all-round progress of human society and its movement to the higher form of communist relations. This movement also connotes the resolution of the contradictions of socialist society, which are qualitatively different from the contradictions of capitalism. Consequently, there is a connection between the dialectical laws of the unity and struggle of opposites and the transformation of quantity into quality.

In all the transformations of quantitative into qualitative changes there are *dialectical leaps*. Depending on the character of these changes and the concrete content of the development itself, the leaps may differ from each other quite substantially. But there is a common regularity in all cases: the transition of quantitative into qualitative changes is a turning-point, a break in gradual development manifested in the substitution of a new quality for the old. *This decisive turn, the immediate transition from one qualitative state to another is a leap in development.*

Lenin noted the radical role of leaps in social development, and stressed: "It is in such periods that the numerous contradictions which slowly accumulate during periods of so-called peaceful development become resolved. It is in such periods that the direct role of the different classes in determining the forms of social life is manifested with the greatest force, and that the foundations are laid for the political 'superstructure', which then persists for a long time on the basis of the new relations of production."¹ This regularity is universal in principle, but is manifested in various phenomena and processes in a special and concrete form.

¹ V. I. Lenin, *Collected Works*, Vol. 13, p. 37.

Materialist dialectics *distinguishes leaps by their content, scale, rate and form*. In *content*, some leaps signify a transition from one object or phenomenon to another, qualitatively different one. Such, for instance, are the leaps from one chemical element to another, from one species of living organism to another, and in social life from one socio-economic formation to another—from slave society to feudalism, from feudalism to capitalism, and from capitalism to socialism.

In other cases, leaps—in terms of their content—are expressive of qualitative changes in the state of given objects or phenomena, such as the stages of the biological development of individual plants and animals, stages in the formation of man, and qualitative changes within the framework of one and the same formation. The transition from pre-monopoly capitalism to imperialism is a leap in the development of the capitalist formation; the same applies to the qualitative changes in the development of society from socialism to communism.

In *scale*, leaps can embrace whole historical epochs, with a number of minor leaps taking place within a common big leap. Thus, the historical transition from our anthropoid ancestor to man was an extremely long one, and within that great leap modern theories of anthropogenesis distinguish three main stages: the development of man's immediate ancestor (close to the Australopithecus); the period of man's formation and the formation of human society (Pithecanthropus, Smanthropus, Atlanthropus, Neanderthaler), and the period of the existence of man of the present physical type (the general Cro-Magnon type). Each of these stages, a leap within the great historical leap, covers a long period. Thus, the Cro-Magnon man made his appearance about 80,000-100,000 years ago.

The epoch of great leaps in modern society embraces an entire period of historical development. The complete qualitative transformation of human society which started with the October Socialist Revolution proceeds through a number of leaps in which individual countries break away from the capitalist system and embark on socialism. The internal transformations in the socialist countries also consist of a number of leaps in all spheres of social life.

Leaps differ in *speed* and *form*: some are rapid, sharp,

even sudden; others are slow and occur through a continuous accumulation of the new quality.

In nature, a sudden destruction of the old quality and the emergence of a new—a sharply defined leap—takes place, say, in the radioactive transformations of atomic nuclei. But nature also offers examples of slow and gradual qualitative transformations, which are sometimes barely perceptible, though they result in a new quality.

In social history, rapid and sharp qualitative changes, the sudden leaps, coincide with social revolutions when the old social order is destroyed and a new one is set up. The sharp leap, and the rapid and resolute transition from the old quality to a new, is expressive of the specific of development in antagonistic society, which is divided into hostile classes. But it is wrong to identify a revolutionary leap only with destruction, with armed and physical violence. Neither is it necessary that a sharp and rapid leap, such as the revolutionary transition to socialism, should involve an armed uprising or a civil war.

Such extremes may, of course, be engendered by concrete historical conditions, chiefly an open and violent offensive on the part of the exploiting classes. Engels noted that the new would come to replace the old peaceably if the old were sensible enough to step off the stage quietly, and it would come violently if the old resisted.

It is also wrong to say that the revolutionary leap in the transition from capitalism to socialism is necessarily connected with war. The Cuban experience has shown that revolutions are quite possible without the world wars with which the first socialist revolutions were associated. Under certain concrete historical conditions revolution takes place without the use of armed force, because revolutionary leaps are a natural and law governed result of the development of the class struggle and the internal contradictions of exploiting society.

Both the peaceful and the non-peaceful way to socialism, while differing in form and degree of intensity, ensure the solution of the same revolutionary tasks, namely, the winning of political power by the proletariat, the revolutionary break up of the bourgeois military and bureaucratic machine, abolition of private property and exploitation of man by man, and the establishment of public ownership of

the means and implements of production. These fundamental socio-economic transformations objectively constitute the essence and the main content of socialist revolution, which is by no means identifiable with armed and physical violence, as the reactionary bourgeois ideologists contend. Regardless of the distinctions, the character and ways of its realisation, the socialist revolution is in every case a gigantic qualitative leap in the development of society.

The qualitative leaps in the development of socialist society are of a different nature. There is no sudden break-up of social relations, no sharp and sudden transition; nor can there be any political revolutions in social development.

Many bourgeois philosophers, who deny the objectivity of leaps in general, and particularly revolutionary leaps in social development also falsify the forms in which leaps manifest themselves. Wetter maintains that the Marxists invented two types of leaps in order to raise an obstacle to any possible repetition of social revolution in the conditions of socialism. This is false, because in socialist conditions there are other, non-antagonistic contradictions, which cannot lead to political revolutions. It is they that determine the different form of the leaps which take place through continued qualitative transformations. Socialist industrialisation, co-operation in agriculture, the cultural revolution, a series of leaps in the gradual transition from socialism to communism are leaps of this kind.

But in every case, any dialectical leap is always a radical and decisive turning-point marking a transition to a new quality in the development of processes and phenomena.

The complex and diverse processes of the real development of the world present various forms and types of qualitative transitions and an interconnection of qualitative and quantitative changes, expressing the universal and at once concrete character of the dialectical law of the transformation of quantitative into qualitative changes

* * *

This law of materialist dialectics is immensely important for revolutionary practice.

First of all, it reveals the *historical necessity of revolutionary transitions from one social formation to another*,

from the old society to the new. This is why the revolutionary transition from capitalism to socialism is not a mere wish on the part of Communists and workers, but an expression of the objective regularity and necessity of historical development. Social revolutions are law-governed qualitative transitions in social development; they are a normal historical process in the life and development of mankind.

At the same time, the revolutionary way of social development to socialism is historically conditioned; it is a way that all peoples and states must *necessarily* traverse. That is a law of history, the objective, real dialectic of the historical process, reflected in the scientific law of Marxist dialectics on the transformation of quantitative into qualitative changes.

Consequently, the whole policy, strategy and tactics of the progressive forces must of necessity be revolutionary, proceeding wholly from the necessity of social revolution and its all-round practical preparation. This also determines the general tenor of the *programme* for revolutionary transition from capitalist to socialist society. Regardless of the concrete forms and methods of struggle in the various countries, and regardless of the diverse historical and political conditions, the general strategic line is determined by the necessity of socialist revolution in all countries and on all continents.

Marxist dialectics demonstrates that the revolutionary qualitative transition is the result of preceding development in which changes are on the whole quantitative and gradual. Marxist dialectics by no means denies the need for gradual evolutionary changes, which always precede radical revolutionary changes in the development of society. Hence, the importance and necessity of large-scale and systematic preparation and struggle by the Communist Parties for the necessary conditions and premises of victory in the revolution. Adventurism and anarchism are foreign to Marxism-Leninism. Artificial "revolutionary explosions" when the necessary conditions are lacking and have not been prepared beforehand, can only lead to defeats and do great damage to the revolutionary struggle.

Under cover of loud revolutionary phrases, the "Left" adventurists in the working-class movement reject daily

painstaking Party work among the masses and deny the need of preparing the revolution taking into account all the objective and subjective factors, of an all round analysis of the actual conditions of the struggle in each country and at each given moment of social development

Struggle for progressive economic and political reforms is an important preparatory measure in the struggle for socialist revolution. In certain conditions, social reforms are necessary and useful

The Meeting of Communist and Workers' Parties noted specifically that in the process of this struggle, the Communists "continuously strengthen the bonds with the masses, increase their political consciousness and help them understand the tasks of the socialist revolution and realise the necessity of accomplishing it. This sets the Marxist-Leninist Parties completely apart from the reformists, who consider reforms within the framework of the capitalist system as the ultimate goal and deny the necessity of socialist revolution."¹

The struggle for progressive social reforms is always subordinate to the higher aim of accomplishing the proletarian revolution

In contrast to this truly scientific and revolutionary approach, the reformists insist that all the problems in the struggle for socialism can be resolved by all kinds of reforms, which are said to lead to "socialisation" and the gradual replacement of private property by social property and to a fundamental change in the nature of capitalism.

However, social practice refutes these ideas. The Swedish Social-Democrats, for instance, have been in power for decades. They indulged in the illusion of a gradual transition to social, co operative and municipal property. Actually, these types of property in Sweden are controlled not by small shareholders, but by the monopolies and remain capitalist in nature, being forms of state monopoly capitalism and capitalist co-operation. Roughly the same thing applies to Britain, where the Labour Party has been in power repeatedly and has practised its "democratic", that is, reformist, socialism.

¹ *The Struggle for Peace, Democracy and Socialism*, Moscow, pp 69-70.

These reformist ideas of "democratic" or "humanitarian" socialism are shared by the modern revisionists. The Italian revisionist Antonio Giolitti says in his pamphlet, *Reform and Revolution*, that there is no need for a revolutionary leap and the dictatorship of the proletariat. He says the task of the working class is to struggle for economic and social transformations within the framework of the old quality, bourgeois democracy.

Absolutisation of reforms, of gradual quantitative changes of the bourgeois order, tends to confuse the oppressed classes and kills their faith in the prospect of revolution, thereby perpetuating exploitation. Materialist dialectics establishes the true relation between reform and revolution and shows the theoretical fallacy and political harm of both reformism and revisionism, and of anarchism and "Left" adventurism.

Finally, great practical importance attaches to a dialectical analysis of the diverse character of qualitative leaps at various moments of historical development. It has been shown above that the character of dialectical leaps in the socialist epoch is fundamentally different from that of leaps under capitalism. This determines the corresponding ways and methods of effecting them. The specific content of qualitative transitions from the old to the new also determines the nature of the practical struggle for their effectuation in different conditions.

The concrete application of the law of the transformation of quantity into quality shows how and in what forms the old quality is supplanted by the new, and how the process of development unfolds. This problem is made doubly acute and pressing by the unfolding of the world revolutionary process and the entry of a number of countries on the path of new social transformations. In each of them there are specific contradictions, which determine the source, content and forms of the revolutionary leaps. The latter fact requires appropriate practical methods, which the revolutionary parties have to work out in their concrete conditions of struggle.

A revolutionary party must have a clear view of the interconnection and results of progressive leaps in the social development of its country. Thus, in modern conditions, a

number of countries face the new prospect of taking the non-capitalist path of development. No nation, said Marx and Engels, can, with its own strength and resources alone, either leap over the natural phases of development or abolish them by decree. It is the assistance of the victorious proletariat of the socialist countries in modern conditions that enables many peoples to bypass the capitalist stage of development or interrupt and shorten the historical stages painful for the working people, and embark on socialist construction.

The non-capitalist path is undoubtedly a revolutionary leap, for it is a consistent revolutionary process of the national liberation revolution developing through a series of intermediate stages and leaps into a socialist revolution. Such a great leap is compounded of a series of leaps in the political, economic and social development of the country. An understanding of this process, an analysis of each qualitative transition, is necessary in working out the correct line and the correct methods of struggle at each stage of the revolution.

§ 6. The Law of the Negation of the Negation

The law of the negation of the negation is one of the principal laws of dialectics and defines the main tendency and relation of the old to the new in the development of the natural and social world. In examining the changes taking place in the world, it is essential to analyse not only their sources and forms, but also the direction, the main tendency, the relation between the new and the old. These sides of the universal movement of the world constitute the content of one of the basic laws of dialectics, known as the law of the negation of the negation.

Dialectical Negation as a Moment of Connection and Development. In studying the core of dialectics we found that the transition of objects or phenomena into their opposite engenders qualitatively new objects and phenomena, which differ from the old, and may therefore be said to negate them in the process of development. The resolution of contradictions leads to a dialectical negation of the old and obsolete by the new and progressive.

Dialectical negation is the product of the struggle of opposites and derives objectively from the existence of contradictory, mutually negating tendencies of development.

The proposition of materialist dialectics on the objective nature of dialectical negation is unacceptable to bourgeois philosophers, who prefer to recognise negation only in the sphere of human knowledge. The neo-Thomist Helmut Ogiermann says, for instance, that "recognition of negation in ontology implies recognition of internal sources within matter itself",¹ and leads to the denial of God as the source of the motion of the world. This is why he denies the objective nature of dialectical negation.

Reality itself, all processes and phenomena, contain the moment of negation as a relation of the new quality to the old. "All development, regardless of its content," said Marx, "may be viewed as a series of different stages of development connected with each other in such a way that the one is a *negation* of the other. If, for instance, a people in its development passes from absolute monarchy to constitutional monarchy, it *negates* its earlier political being. In no sphere can development take place without negating its previous forms of existence."² Negation is the law-governed connection between the preceding and the subsequent stages of development.

Dialectical negation is not identical with the simple destruction of an object or phenomenon. Engels said that in dialectics to negate was not to simply say "no" or declare a thing non-existent. On the contrary, dialectical negation implies not absolute destruction of the old, but retention of some of its aspects. By preserving the positive and viable in objects and phenomena, dialectical negation preserves the premises for further advance and for new negation.

The moment of connection between the new and the valuable and positive in the earlier stages is *continuity of development*. Continuity is a highly important regularity of development and is broad and general in character. Thus, the progressive development of living organisms reveals continuity of connection between biological species. The

¹ H. Ogiermann, *Materialistische Dialektik*, München, 1957, S. 218.

² Marx/Engels, *Gesamtausgabe*, Abt. 1. Bd. VI, S. 303-04.

preceding stages of development do not disappear tracelessly; they leave an imprint on the new organism. Every organic form in its individual embryonic and infantile development (ontogeny) to some extent repeats the principal stages, traits and features of the phylogenetic development of its ancestors. In biology this phenomenon is known as the biogenetic law.

Historical continuity is an important moment in the development of social life. Transition from one mode of production to another takes the form of a dialectical negation of the old quality by the new, marked by the retention of the positive elements of the old and, above all, of the earlier productive forces. "Because of the simple fact that every succeeding generation finds itself in possession of the productive forces acquired by the preceding generation, which serve it as the raw material for new production, a coherence arises in human history, there is formed a history of humanity which is all the more a history of humanity since the productive forces of man and, therefore, his social relations have become more developed."¹

There is also a definite continuity in the development of the various sides of material and spiritual activity in such a dialectical negation as the replacement of capitalism by socialism.

The proletariat preserves and multiplies not only the productive forces and material culture, but also all the material and technical elements of social life created by the working people in the exploiting formations. The store of knowledge acquired by mankind at earlier historical stages, the progressive results of the development of spiritual culture and other aspects of various social phenomena also become the property of all the working people under socialism. Under socialism the masses have a stake in preserving and multiplying the positive elements accumulated by mankind. This is why in the socialist countries no basis exists for the spread of the so called "new" abstract art, which nihilistically negates the culture and art of former generations, while it fails to give anything truly valuable and progressive of its own.

The nihilistic attitude to the cultural and scientific legacy

¹ Marx and Engels, *Selected Works*, Vol. II, Moscow, 1962, p. 442.

rejects the true and valuable elements comprising the human scientific moment of knowledge. For example, we cannot agree with Lombardo Toledano, the Mexican trade union leader and philosopher, that it would be "an unacceptable logical position . . . to admit everlasting ideas, norms, concepts, and laws in the continuously changing reality".¹ This confused relativist proposition prompts the author to deny objective truth, objective scientific laws and the supreme achievements of culture. In particular, he nihilistically denies the universal laws of dialectics discovered and learned by man, which are everlasting insofar as motion and development are everlasting.

In their revolutionary practice the Marxist Parties oppose the metaphysical and nihilistic understanding of negation in the processes of development. In contrast to Marxism, the anarchists, who thereby profess to safeguard the "absolute freedom" of the individual, flatly reject every kind of state. They oppose the Marxist Leninist theory of the dictatorship of the proletariat and reject every kind of political power and political organisation of the working class.

This, too, is the conclusion arrived at by some modern revisionists, who maintain that in the socialist countries the dictatorship of the proletariat signifies the negation and destruction of democracy. Actually, the dictatorship of the proletariat is not only a negation of the old democracy (not any democracy, but specifically bourgeois democracy) of the minority but also consolidation of a new, proletarian, socialist democracy, a democracy of the overwhelming majority.

At the same time, it should be borne in mind in practical activity that in some concrete processes the old that is retained in the new is neither positive nor necessary for the new. The burgeoning new may be retarded by the retained elements of the old. The survivals of past economic relations (feudal, slave-holding and patriarchal) may offer a serious resistance to the new. Historical experience shows that such survivals of the old hamper the development of national capitalism in some countries, while in others they

¹ V. L. Toledano, *Moscu o Pekin? La via mexicana hacia el socialismo*, Mexico, 1963, p. 18.

hamper the building of the material and technical pre-conditions for socialism and then its construction. The resistance of the old forces in countries executing a leap through non-capitalist development is particularly strong. Similarly, the negative survivals of the old, the survivals of capitalism in the minds and behaviour of some individuals in socialist society, tend to retard the progress of socialism. This fact is one of the reasons why the Communist Parties in the socialist countries show such constant concern for the communist education of the working people, combat the penetration of bourgeois ideology, and uphold the purity and creative development of communist ideology.

On the other hand, negation of the progressive moments in preceding stages of social development may in practice lead to hidebound sectarianism and isolation from the masses. The people long retain the memory of the heroic fighters for national liberation. The Communist Parties, which are aware of the historical limitations of past national liberation movements, hold up these heroic examples for new generations of fighters of all continents.

The names of outstanding revolutionary democrats and heroes of the liberation struggle against imperialism and colonialism in Asia and Africa have been rightly inscribed in history and have become the pride of the peoples. The revolutionary traditions of the liberation struggle under the leadership of Simon Bolivar and the great fighter against imperialism, José Martí, are revered in all the countries of Latin America. The direct connection of Martí's struggle with the contemporary anti imperialist struggle is reflected in the Havana Declarations of 1960 and 1962. Martí, by the way, who was not a Communist himself, had deep respect for Marx. He wrote: "Karl Marx taught us how to build the world on new principles; he wakened the sleeping and showed them how to knock down the worthless props."¹ This view is shared by all consistent revolutionary democrats, who are attracted to scientific socialism by the logic of the struggle. Besides the traditions of liberation movements, Communists also rely on the contemporary anti-

¹ José Martí, "Hombres a Karl Marx que ha muerto", *Obras Completas*, Vol 1, tomo II (*Noticias de hoy*, 14 marzo de 1962).

imperialist revolutionary democratism, especially in the countries liberated from colonialism.

All this is evidence of the profound dialectic of progressive revolutionary movements, in which each new stage, being a definite negation of the preceding one, continues the finest traditions of the struggle of previous generations and of the earlier stages of the liberation movement. Here again, the dialectic of negation has a real historical content.

The process of continuous development is a process of the origination of the new, its rise and fall, and the emergence of subsequent new moments in the movement, and so on *ad infinitum*. Apart from their connection with the old, the cycles of dialectical negation always contain the moment of development, their own negation or negation of the negation.

Negation of the Negation Neither isolated individual negation nor the endless cycles of negation reveal the general trend of development. In either case it is impossible to determine the future development of concrete processes, for they will be either an isolated stage or a rotary motion.

The special feature of the universal character of the law of the negation of the negation is that it applies to primarily progressive development and not indiscriminately to all changes. Some mechanical, physical and chemical processes comprise relatively stable cyclical repetitions (e.g., mechanical action and counteraction) in which nothing new is directly conceived.

In contrast to such processes of motion, ascendant progressive development goes from the simple to the complex, from the lower to the higher. The progressive tendency is made complicated by the moments of the elimination of the old, the continuity of positive and negative aspects of the old, the emergence of the new, the seeming repetition of the initial features and points, and particular cases of regressive motion.

In the process of ascendant development new features, peculiarities and properties negating the previous state may turn into their own opposite. The repeated transformation of things and phenomena into their opposite in certain conditions revives some of the rejected features and peculiarities of the initial stage of development. A series of

transformations occurs; the initial stage is negated by its opposite (first negation), which, for its part, turns into its own opposite in the process of development and negates the preceding stage (second negation, negation of the negation). The special feature about the second negation is that it reconstructs the results of the first negation to a certain extent and restores some of the essential features of the initial stage of development.

Speaking of the dialectical movement involving returns to starting points, ostensibly returns to the old with definite repetitions, Lenin said that it is "a development that repeats, as it were, stages that have already been passed, but repeats them in a different way, on a higher basis".¹ It is this sort of development that the law of the negation of the negation embraces.

Universality of the Law of the Negation of the Negation. The law of the negation of the negation has very broad scope. Engels described it as "an extremely general—and for this reason extremely far-reaching and important—law of development of nature, history, and thought; a law which ... holds good in the animal and plant kingdoms, in geology, in mathematics, in history and in philosophy".²

Modern science and socio-historical practice furnish a variety of proofs of the operation of the law of the negation of the negation in inorganic nature, in the organic world, and in human society and thought.

First of all, in inorganic matter development proceeds as a complication of material objects, their connections and forms of motion, and particularly so in mechanical and physical processes, which subsequently lead to complex chemical transformations in nature. However, it should also be noted that in inorganic matter there are many downgrade processes of disintegration and the destruction of complex forms of matter.

The organic world as a whole undergoes a continuous process of exchange and a self-renewal of living bodies. The progressive development of the organic world proceeded from the most elementary amorphous albumen to the cell, the differentiation of the first plants and animals, and then

¹ V. I. Lenin, *Collected Works*, Vol 21, p 51

² Engels, *Anti Dühring*, Moscow, 1959, p 193.

of their numerous species and classes, including the anthropoids, the immediate ancestors of man.

In living nature development is represented by the improvement of the internal organisation and functions of living beings. Progress in living nature is based on the organism's adaptation to the environment. The main stream of progress is directed towards the highest organisation of matter—towards man. It is highlighted mainly by the development of higher nervous activity in animals and by an improvement in the modes of reflecting the external world. But not all changes in living nature coincide with the main progressive tendency. Far from all adaptive changes raise the organism to a higher level; many are merely necessary for the survival of the organism.

All the same, a single chain of development connects all the links of living nature. The whole history of development of the vegetable and animal kingdoms is evidence of the regularity of the rise from the lower to the higher, the dying of old organic forms and species and the emergence of new, improved and more developed forms.

It is only natural that progressive development has a different content in living nature and in human society. The basic regularities of socio historical progress depend on the level of development of material production. The *highest criterion of progress* in society, Lenin said, is the development of the productive forces, which, through the relations of production between men, eventually determine the historical level of all the aspects of social life. In material production, the objective criterion of development is expressed in the productivity of social labour. The degree of human control over the forces of nature and man's own social relations is the *concrete historical measure of social progress*.

The history of human society testifies to the fact that development proceeds from the lower forms to the higher. Outworn social forms inevitably give way to higher and more progressive forms. The dialectic of upgrade development is most strikingly revealed in the replacement of obsolete socio economic formations by improved ones; the development of the material productive forces is the decisive factor in this process.

The fact that the law of the negation of the negation is

universal and that its content is specific affects *the forms in which it manifests itself*. This is profoundly dialectical. Its upgrade tendency is the distinctive feature of all progressive development. The *spiral* conception shows how complex is progressive development, which combines ascent to the highest stage with certain repetitions of starting-points on a new basis. The loops of the spiral embrace the whole dialectical cycle—*continuity, repetition and ascent*—while the alternation of loops stresses the infinitude of development. The organic connection of the loops of the spiral indicates the interrelation of the stages of development, the fact that the *new is insuperable*, that it expands and becomes richer in the process of its advance. Deviations and regress may be indicated by the reverse direction of some of the sections of the spiral.

Lenin described spiral development, as distinct from development along a straight line, as one of the features of dialectics. The Marxist proposition on development along a spiral is diametrically opposite to the repetition, retrogression and straight-line principles made absolute by metaphysics.

It is a favourite dodge of the falsifiers of Marxism to present the essence of materialist dialectics as being subordinate to the subjectivist *Hegelian triad*. We have already examined the three stage nature of the development of the dialectical cycle. It embraces the starting stage, the negation of the starting stage and the negation of the negation.

The law of the negation of the negation, first defined by Hegel from the idealist standpoint, was indeed reduced by him to a triad—thesis, antithesis and synthesis. This is evidenced by the philosophical system built by Hegel, which develops as a triad: the logical stage of the absolute idea—nature—the absolute spirit. This scheme of development was made absolute by Hegel, although he was formally opposed to any stereotyped application of the triad.

In contrast to Hegel, materialist dialectics determines the real character and trend of development, its objective laws and forms, by means of precise scientific investigation. In his book, *What the 'Friends of the People' Are and How They Fight the Social-Democrats*, Lenin wrote that Marx's method is the only scientific method in sociology that regards society as a living, continuously developing

organism, to study which it is necessary to investigate the laws governing its functions and development. Marx's scientific method is based on a critical study of the values accumulated by mankind and a concrete historical approach to all phenomena. This approach is antipodal to any artificial classification of material reality according to subjectivist dogmatic schemes, particularly the triad.

As we see, the essence of the law of negation is not to be identified with three stage development, which is only one of the forms in which this law manifests itself. The simple three-stage form reveals the content and direction of progressive development, but is not necessarily applicable to all processes.

In his *Philosophical Notebooks*, Lenin took special note of the fact that trinity in dialectics is no more than its external, superficial side. The welter of stages in the development of each thing and phenomenon cannot be squeezed into the narrow confines of the triad. Every new stage, which negates the preceding one, contains new, more progressive properties and sides.

The nature and character of the concrete processes of development determine the number of its stages. The objective logic of the history of human society, for example, embraces five socio-economic formations, which unquestionably constitute a series of negations, stages or cycles of progressive development. There may be a different number of stages, or causes, in other processes, and none of them—neither three, nor five, nor any other number of stages, phases, and the like—may legitimately be considered absolute. Upgrade development is generally dialectical.

The Dialectic of Social Progress The main direction of world social development in our time may be described as an irrepressible advance of the peoples to socialism. A powerful process of liberation is underway, in which the main trend of historical development is being determined by the world socialist system, the forces fighting against imperialism for the socialist reconstruction of society.

The process of social development, the rise from the lower to the higher, is a highly complex and dialectically contradictory process. The complexity derives chiefly from the possibility of retreats and deviations. On the whole, living nature and human society develop progressively,

along a line of ascent, but this main stream does not rule out regressive movements in the various stages. The existence of parasitic plants and animals, and the temporary victories of reactionary forces and tendencies in social life, are typical examples of such regress.

History, especially in the period of revolutions and stormy social upheavals, Lenin says, moves in zigzag fashion, with offensive operations and successes in one sector being accompanied by partial setbacks and even partial defeats on another "One step forward, two steps back. . . . It happens in the lives of individuals, and it happens in the history of nations and in the development of parties."¹ But the zigzags and setbacks do not alter the general progressive advance of history and the triumph of the new, revolutionary forces.

This is a highly important factor from the standpoint of practice. Revolutionary parties must not be discouraged by their own defeats and the temporary victories of reaction in this or that country. They must always bear in mind the prospect of historical development, which is the prospect of the inevitable victory of the new, of the revolution and socialism.

It stands to reason, however, that the inevitable zigzags and departures from the general line of progressive development in actual life should in no case serve as grounds for justifying the zigzags and turns executed by politicians, their leaps from one flank of the struggle to the other—a course of behaviour that is not at all dialectical and shows a lack of principles. True dialectics does not justify such turns and mistakes, and calls for their analysis on the basis of the concrete conditions of the political struggle.

Like the other laws of dialectics, the law of the negation of the negation is falsified by modern bourgeois philosophers. The neo-Thomists, for instance, argue that the principle of negation contradicts the principle of development, because the development of "reality" is pre-determined by God, whom they style as an absolutely positive principle. The principle of negation cannot be applied to him and his works. Consequently, they contend,

¹ V. I. Lenin, *Collected Works*, Vol 7, p 414

negation is proper only to man, the subject, who wallows in his sins. This candidly theological argument is obviously wrong, and the dogmatic assertion that God is a "positive principle" simply results in a denial of any real negation in the surrounding world. However, the actual development of the world furnishes endless evidence of continuous succession, of the new negating the old in all the processes and phenomena of nature, society and knowledge.

The falsification by bourgeois philosophers of the law of the negation of the negation concerns especially the question of society's progressive development. The ideologists of the modern bourgeoisie, a historically doomed class, do not believe in social progress; they fear it and reject all the theories of social progress and, accordingly, the dialectical law of the negation of the negation, especially the proposition that in development *the new is insuperable*.

In place of the progressive development of society, they put forward a variety of propositions that social development is repetitious and regressive. Absolutisation of repetition is the basis of the bourgeois theory of recurrent cycles, a typically metaphysical doctrine.

This theory was first put forward at the dawn of capitalism by the Italian philosopher Giovanni Vico (18th century), who regarded the history of society as a succession of recurrent cycles (infancy, youth and senility). This theory, modernised in the imperialist epoch, has become patently reactionary.

Oswald Spengler, one of the ideologists of German fascism, maintained in his notorious book, *The Decline of the West*, that the development of every society has three stages: inception, bloom and decline. He said the modern history of mankind represented the stage of decline when "all the achievements of modern culture are bound to be destroyed".

The English historian, Arnold Toynbee, developed the idea of historical cycles in much the same vein, depicting the history of mankind as twenty closed "civilisations", each of which passes through five stages and dies. There is no advance in history as a whole, he said.

The English sociologist Vansittart and Charles Galton Darwin, a grandson of the great scientist, supplement the theory of cycles with the idea of society's movement along

a line of descent. They say that society is sliding back to the caveman period. In his book, *The Next Million Years*, Darwin tries to present the degradation of social life under imperialism as an inevitable prospect for the human race as a whole.

The exponents of these reactionary views predict the destruction of mankind, the collapse of world civilisation, and "cosmic death". This is typical of the ideologists of the imperialist bourgeoisie.

Another section of modern bourgeois theorists have been forced by the facts to admit the progressive nature of social development. At the Third World Sociological Congress, Leopold von Wiese (F.R.G.), unable to deny the fact of progressive social development, proposed that progress should be given the more cautious and skeptical name of "social change". Of late, the concept of social progress is being frequently supplanted in bourgeois literature by the vague term, "modernism".

Radical turns in the social history of many countries of Africa, Asia and Latin America over the last few years have made bourgeois ideologists recognise the idea of social progress in one way or another. It is the question of the ways of social development facing the young national states and the prospects of the socioeconomic competition between the two systems, that compels recognition of historical progress. U.S. ideologists advertise the capitalist way and falsify the social development of the socialist countries in an effort to present the American revolution and the "American way of life" as the sole model of progress. These ideas were expounded at the Thirteenth International Congress of Philosophy in Mexico in 1963 by American and Mexican philosophers. The Mexican bourgeois philosopher Francisco Larroyo claimed that the only way out of the general crisis that has gripped the world is through the "idea of Americanism" which allegedly holds the promise of progress and prosperity for the peoples of the globe.¹

This sort of "recognition" of the idea of progress is a screen for the aggressive policy of U.S. imperialism, which

¹ *Memorias del XIII Congreso Internacional de Filosofía, México, 1963, Vol. I, p. 191.*

is bent on dominating other nations. It is therefore an important task of the ideological struggle to expose these sham advocates of progress who use the word to dupe the people into accepting the reactionary policy of the imperialist bourgeoisie.

In conclusion, let us dwell briefly on the operation of the law of the negation of the negation under socialism, where it has a number of specific features

The *new social content* of the process of negation in the development of socialist society is one of these specific features. Under socialism, negation of the old and establishment of the new is not accompanied by any clash of social forces. The *spontaneous process* in which the old is overcome in pre-socialist formations gives way to *conscious and organised social influence* on objective processes.

Led by the Communist Parties, the masses draw on their practical experience to put forward new forms and methods of building socialism and communism. Creative elaboration and broad support of the new forms by the masses, and the organising and directing role of the Communist Party and the socialist state ensure the *early victory of the new*.

Criticism and self-criticism is an important method of negating the old and consolidating the new, and is gaining ever greater practical significance. It helps to raise and solve new tasks in the preparation of definite conditions, thereby ensuring the *timely replacement* of the old by the new.

The replacement of the old by the new in the various spheres of social life under socialism does not lead to a negation of the foundations of the social system, because under socialism negation serves to resolve non-antagonistic contradictions arising in the course of social development.

Another important feature of the law of the negation of the negation under socialism is the *continuity of upgrade development* in all spheres of social life and the *continuous acceleration of the rate of social progress*. This regularity reveals the unquestionable advantages of socialism over capitalism, under which booms alternate with periods of recession and stagnation and the laws of capitalism restrict and distort social progress.

The continuous progress in the development of society leads to socialism and on to communism. The movement from socialism to communism is a law-governed process which can neither be abolished nor avoided. There is no force in the world that can upset this general regularity of development. In the light of the objective dialectical laws, we can say that the victory of socialism and communism is just as inevitable as the sunrise.

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The examination of the basic laws of materialist dialectics shows their exceptional importance both for cognition and for practical revolutionary activity and struggle. The laws of dialectics reveal the inner, objective processes of the motion and development of the whole material world, and show the sources and motive forces of development; they open to man real prospects of social progress and indicate the way for the revolutionary transformation of reality.

Chapter Five

THE CATEGORIES OF MATERIALIST DIALECTICS

§ 1. The Concept of Categories

Categories as Stages and Forms of Cognition. Everything man knows about the surrounding world and about himself is couched in the form of general concepts, that is, categories. Even the simplest idea, say, "three yellow leaves fell to the ground", contains such categories as object (leaves, ground), quality (yellow), quantity (three) and motion (fell). Thought and cognition of the properties of objects, of their connections with other objects, and of their development, is impossible without categories.

Every field of knowledge has its own specific categories. Physics makes use of such categories as "atom", "mass", "energy", etc. Biology employs the categories "organism", "heredity", "mutability", etc. The economic categories are "commodity", "money", "value", etc. But alongside these specific categories, there are categories applicable to all sciences and to knowledge in general.

Specific sciences study the specific connections of phenomena existing in a specific sphere of reality. The purpose of Marxist dialectics is to study the most general laws and connections pertaining to all the phenomena of the material world. Take the causal connections. They prevail in the processes of physics, in animate nature, in society and in thinking. Each science examines the causal connections within its special field. The physicist probes physical causal connections, the biologist probes the biological ones, etc. As for dialectics, it makes the element common to all these causal connections the object of its study. The same applies to all the other categories, such as quality, quantity, form and content, essence and appearance, interaction, development, etc.

Materialism and idealism hold diametrically opposite views on the essence of categories. The idealists aver that categories are not a reflection of the objective world. Hegel defined categories as manifestations of world reason. The neo-Thomists inject a religious and mystical element into categories, maintaining that they existed originally in the divine reason as prototypes of real things, properties and relations. The subjective idealists regard categories as the product of man's consciousness and do not connect them with the real world.

In contrast to all these idealist conceptions, dialectical materialism considers categories to be a reflection of the objective world, the result of generalised human practice and scientific study.

Categories are forms of reflection in the mind of the universal laws governing the objective world.

We have acquainted ourselves with the principal philosophical categories when we examined the problems of the materialist world outlook. We learned about such categories as matter, motion, space, time, the finite, the infinite, consciousness, quality, quantity, measure, contradiction, unity, negation, etc. However, this is by far not the whole system of dialectico materialist categories. The history of philosophy, notably that of dialectics, has produced such categories as cause and effect, necessity and chance, possibility and reality, form and content, essence and appearance, etc.

They were elaborated in the course of man's historical practice and cognition, and the development of science and philosophy. Lenin described them as "stages of distinguishing, i.e., of cognising the world, focal points in the web, which assist in cognising and mastering it".¹ The categories of quality and quantity, space and time, cause and effect, etc., took shape in man's consciousness as he kept encountering and considering a billion times over the real causal and spatial relations of things, that is, their qualitative and quantitative aspects.

The categories of dialectics reflect the aspects of dialectical development and its various regular connections. Whereas the laws of dialectics reflect the most general

¹ V. I. Lenin, *Collected Works*, Vol. 38, p. 93.

regularities of the motion of the material world, dialectical categories express the various essential aspects and connections in the complex and contradictory process of development.

Being reflections of the objective world in the process of its practical reconstruction, categories in general, and those of dialectics in particular, serve as a means of cognising reality with the object of its continued, broader and more far-reaching reconstruction. Their methodological role in science is very great. This, as we have seen earlier, applies most of all to such categories as matter, consciousness, motion, space, time, etc. Now we shall see that such fundamental categories as essence, content, causality, necessity, chance and other categories studied by materialist dialectics in the social context, are no less important. To be sure, scientific thought, in whatever field of knowledge, is entirely out of the question without them.

The Interconnection of Categories Every category reflects some general law governed connections of the objective world, while, as Lenin put it, together they "embrace conditionally, approximately, the universal law-governed character of eternally moving and developing nature".¹ The single system of categories reflects the unity of the material world, the universal connection, interaction and the development of things. The order in which categories are placed within the system of dialectical materialism depends on the degree of complexity of the objective connections and the movement of cognition from the simple to the complex. The development of phenomena consists in that they pass step by step from more simple to more complex and from lower to higher ones. Cognition, too, follows the same sequence.

The category of matter is the primary philosophical category. To be sure, all the other categories only describe the content, the various manifestations, properties, relations and connections in the development of matter from all possible angles. Motion is the mode of existence of matter; space and time are the forms of its existence; consciousness is a function of highly-organised matter, a reflection of the material world; quality, quantity, cause

¹ Ibid., p. 182.

and effect, and other categories as well, are also characteristics of matter in motion. Dialectical categories are therefore all organically connected with the categories of matter and motion.

The categories of dialectics are mutually connected and turn into each other in certain conditions: the accidental becomes necessary, the individual becomes universal, quantitative changes call forth changes in quality, effect turns into cause, etc. This fluid interconnection of categories is a generalised reflection of the interconnection of phenomena in objective reality. All categories are historical; hence, there cannot be any immobile, eternal system of categories. By virtue of the development of science and practice, new categories keep appearing all the time, while old categories acquire new content.

In contrast to this conception of categories, metaphysics denies their dialectical nature—their interconnection, transition of one into another, and mobility. Metaphysicians consider the world to be immobile or in a state of mere repetition. The metaphysical conception of development is, in effect, a denial of development and makes standstill an absolute. Metaphysicians have immobile categories to fit their immobile world. They also deny the dialectical connection between categories, detach categories from one another, and elevate one category to the absolute degree while ignoring others. This one-sidedness has nothing in common with the true content of categories, which are organically interconnected and reflect the ceaseless motion and development of the world.

Dialectical materialism draws in its conception of categories on the key proposition advanced by Lenin that categories are unbreakably connected with each other, that they are mobile, that one passes into another, and that they possess all-sided universal flexibility. "Flexibility, applied *objectively*, i.e., reflecting the all sidedness of the material process and its unity," Lenin wrote, "is dialectics, is the correct reflection of the eternal development of the world."¹ This conception of categories conforms with their real, objective content.

Let us now examine in detail the basic categories of materialist dialectics.

¹ V. I. Lenin, *Collected Works*, Vol 38, p 110

§ 2. The Universal and the Individual

The objective processes in the dialectical development of nature and society have many important aspects, each of which evidences the unity and struggle of specific opposites. These opposites and their dialectic are reflected by the respective dialectical categories, which are always treated in "pairs". The *universal* and the *individual* comprise one such important pair of dialectical categories.

The concepts "universal" and "individual" attracted special attention when the socialist system came into being, and, later, when the ways of building socialism from country to country were being determined. The revolutionary forces in the respective countries had to decide on the manner of transition from capitalism to socialism in each individual country, to apply the general propositions of Marxism Leninism to the specific conditions of their countries, and to deal with other similar problems. To solve these important problems, they had to apply the Marxist dialectical method and to know and apply the dialectical propositions on the universal and the individual. What is the content of these two dialectical categories, and what is their cognitive and practical significance?

Suppose all the properties of two objects are absolutely identical. Then, the two objects must inevitably occupy one and the same place at one and the same time. However, if this were so, there would be one object, instead of two. Yet things occupy different places in space and in time. Therefore, they have different connections with other things. This, in turn, is bound to differentiate their properties at any given moment. We may take it on the same grounds that things and events are absolutely unrepeatable. Nothing ever happens twice. While objects have universal connections, all of them possess specific features, integrity, and individuality. Events and phenomena may be similar and alike, but their individual distinctions are always in evidence.

The *individual*, or *particular*, is an object comprising a totality of properties which distinguish it from all other objects and constitute its individual qualitative and quantitative definiteness.

The conception that the world is nothing but an infinite

diversity of individualities is one sided and therefore incorrect. Infinite diversity is but one aspect of being. Its other side is the universality of things, of their properties and relations. There are no two absolutely identical things, any more than there are two absolutely different things, i.e. things that have nothing at all in common. All the stars have common features, which distinguish them from all the other objects in nature. The same is true of minerals, plants, animals etc. The universal is the individual in plurality.

In bourgeois society, for example, some people own the means of production and all the riches, and appropriate the labour of other people. These common properties and features connect these people and identify them as the capitalist class. Most of the people in bourgeois society, on the other hand, are deprived of the implements and means of production and compelled on pain of starvation to sell their labour to the exploiters. These common properties connect and unite them as the working class, the antithesis of the capitalist class. Common properties and features of different things and phenomena, and the objectively existing connections between individual objects and phenomena, are reflected by means of the category of the universal.

Unity may assume the form of resemblance or identity of the properties or relations of objects belonging to a class, a plurality. The common properties and relations of things are cognised through generalisation as concepts, and are designated by common nouns, e.g. "state", "man", "plant", "law", "cause", etc. The individual contains the *universal as its essence*. For example, the statement that an act is a feat of valour attributes to this individual act a certain universal, or general, quality. The universal is, as it were, the heart and soul of the individual, the law of its life and development.

Objects may possess different degrees of universality. *If the universal properties and relations pertain to but small groups of objects, they are said to be particular.* The universal may be dual, that is, it may be universal in relation to the individual, and particular in relation to a larger degree of universality. Take the concept "Russian". It is universal in relation to every individual Russian, and par-

ticular in relation to the concept "Slav". The latter concept is universal in relation to the concept "Russian", and particular in relation to the concept "man". To sum up, the individual, particular and universal are correlative categories expressing the mutual dialectical transitions of reflected objects and processes.

The Dialectic of the Individual and the Universal. The idealists misinterpret the correlation of the individual and the universal. Objective idealists conceive the universal as an absolute, divorce it entirely from the individual and treat it as an independent essence, a deified reason. They ascribe to the universal the creation of all existence. Dialectical materialism, on the other hand, believes that the universal does not exist outside the individual, and that no individual thing exists by itself, in isolation from other individual things. It can neither originate, nor survive, nor yet change, unless it is connected with many other things. Since different things are connected between themselves, since they interact and are mutually dependent, they must have "points" of contact and be commensurable, homogeneous, and possess universality. In every object and class of objects the individual and the universal form a unity, and interact. "The individual exists only in the connection that leads to the universal," wrote Lenin. "Every individual enters incompletely into the universal, etc., etc. Every individual is connected by thousands of transitions with other *kinds* of individuals (things, phenomena, processes), etc."¹

This means that the concrete form of existence of an object depends on the process in which it participates. The individual thing owes its concrete form of existence to the system of law-governed connections within which it originated and exists as a qualitative definiteness. For example, the generalised information contained in the molecular structures of the cell nucleus is a programme that governs the individual development of the organism and the transmission of hereditary properties from one generation to the next: man's generic essence in the universal context of heredity is passed down from generation to generation

¹ V. I. Lenin, *Collected Works*, Vol. 38, p. 361.

and, jointly with the aggregate natural and social conditions, creates the given individuality.

The operation of a universal regularity is expressed in the individual and through the individual, while every new regularity, be it the birth of a new biological species, of new social relations, etc., acts in reality at first as an individual exception to the universal rule. Subsequent development leads to the emergence of a new, universal regularity.

The Methodological Role of the Dialectic of the Individual and the Universal The dialectic of the individual and the universal is highly important for cognition and practice.

Science deals with generalisations and universal concepts. This enables it to establish laws and thereby to equip practice with a knowledge of the essence of phenomena and of their intrinsic connections. But here, too, we have a unity of the universal and the individual. The universal is defined in a concept through reflection of the individual. If study of the individual is neglected, this is bound to impoverish our knowledge of the universal, especially where individual features comprise the essential side of an object, e.g., a given revolution in a given country. The countless individual features possessed by every concrete man are obliterated in the universal concept "man". The special science of man must not ignore the fact that, despite their many common properties and features, all men differ from each other in anatomical details, the functioning of their various organs, the chemical content of their brain, blood, bones, muscles, glands, skin and hair, the composition of their fermentative systems, the reactions of their organism to the environment, etc.

Every scientific analysis of both natural and social phenomena must necessarily proceed from the unity of the universal and the individual.

The revisionist and dogmatic approach to the correlation of the universal and the individual has nothing in common with dialectics. Modern dogmatism, for one thing, denies the peculiarities of the individual and concrete in phenomena, and postulates war as the only possible form of revolutionary transition from capitalism to socialism, proclaiming this form to be absolutely obligatory for all

times and nations. The dogmatists ignore the distinctive features of individual countries, that make the peaceful form of revolutionary transition to socialism possible in certain concrete conditions.

On the other hand, the dogmatists and revisionists one-sidedly exaggerate the peculiarities of their own country, that is, the individual, the particular, elevating it to an absolute, while ignoring the universal regularities governing the transition from capitalism to socialism. The dogmatic proposition of relying solely on one's own resources in the building of socialism is tantamount to a denial of the common economic laws governing the development of the world socialist system. In practice, this leads to isolation from other socialist countries, to a weakening of the socialist camp, which benefits none but the imperialists. The fallacy and danger of such a policy was set out in the Programme of the C.P.S.U., which says "The line of socialist construction in isolation, detached from the world community of socialist countries, is theoretically untenable because it conflicts with the objective laws governing the development of socialist society. It is harmful economically because it causes waste of social labour, retards the rates of growth of production and makes the country dependent upon the capitalist world. It is reactionary and dangerous politically because it does not unite, but divides the peoples in face of the united front of imperialist forces, because it nourishes bourgeois nationalist tendencies and may ultimately lead to the loss of the socialist gains."

As we see, betrayal of dialectics leads to grave political errors and consequences.

Lenin's propositions concerning the dialectic of the universal and the individual are of the utmost importance for the theoretical and practical activities of the advanced revolutionary forces. The two concepts have to be examined from the standpoint of their mutual connection and must not be divorced from, or opposed to, each other.

Firstly, it is necessary to make a concrete analysis of individual phenomena and processes and determine their peculiarities and specific features. The universal does not exist abstractly, between heaven and earth. It exists in the individual objects and phenomena of the material world.

It would be dangerously dogmatic to think that the transition from capitalism to socialism has only one ossified form, which must repeat itself mechanically and unalterably in the different countries. As demonstrated by Marxist theory and revolutionary experience, the form changes from country to country, depending on the specific conditions, because universal regularities always assume special forms in different countries and different conditions.

Describing the creative purport and significance of Marxism, Lenin wrote in one of his early works that Marxist theory "provides only general *guiding* principles, which, in particular, are applied in England differently than in France, in France differently than in Germany, and in Germany differently than in Russia".¹ In the theoretical sense, this springs from a correct appreciation of the dialectical connection between the universal and the individual.

Secondly, this implies recognition of the decisive significance of the chief revolutionary Marxist-Leninist principles, which are universal in character and express the essence of the development processes despite their multiplicity and peculiarity.

Acting on these Leninist ideas, the 1957 Declaration defined the universal laws governing socialist revolution valid for countries following the socialist path, irrespective of their individual distinctions.

§ 3. The Part, the Whole and the System

The Concept of Part, Whole and System. The categories individual and universal are associated closely with the categories part, whole and system. The system is an integral aggregate of elements in which the latter are so closely connected with each other that they present a single whole in relation to the environment and other systems.

A system is a whole comprising a unity of parts. The categories whole and part elucidate the concept system. A whole cannot exist outside its parts. The category part

¹ V. I. Lenin, *Collected Works*, Vol 4, p 212.

connotes an object not in itself, not as such, but solely in its relation to that of which it is a component, to that which it enters (e.g., an organ is part of an organism). Consequently, the categories whole and part express that connection between objects in which one object, a complex and united whole, represents an amalgamation of other objects and is constituted of them as of its parts. Aristotle pointed out that the whole is an object which contains a complete set of parts. In the correlation of whole and part, the whole is the leading and determinative; the part is subject to the action of the whole, which is, as it were, present in its parts. Thus, a microparticle of matter, which has a relative individuality, "feels" the influence of the system as a whole at all times. Similarly, a free atom differs substantially from an atom that forms part of a molecule or crystal. The properties of a particle are largely determined by the system of which it is a part.

The categories whole and part are correlated. No matter how infinitesimal a particle of matter we take (e.g., an atom), it is a whole and, at the same time, part of another whole (e.g., molecule). This other whole is, in turn, part of a larger whole (e.g., the organism of an animal). The latter, too, is part of a still greater whole (e.g., the Earth), etc. No matter how large a whole is, it is ultimately a part of an infinitely great whole, a part of the infinite Universe.

The Types of Wholeness. The Dialectic of Whole and Part. The various systems are classed under three basic types of wholeness, depending on the connection of their parts. The first such type is the *unorganised* (or summative) whole, which is a simple welter of objects. Conglomerate, that is, a mechanical amalgamation of heterogeneous things (e.g., rock consisting of gravel, sand, pebbles, stones, and the like), comes under this head. In an unorganised whole, the connection of its parts is purely external and mechanical. The properties of such a whole coincide with the sum of the properties of its composite parts.

The second type is *organised* wholeness, e.g., the atom, molecule, crystal, solar system, galaxy, etc. The organised whole possesses varying degrees of order, which depends on the specific features of its composite parts and on the nature of the connection between them. The elements of

an organised whole are in a state of relatively stable and regular mutual connection.

The third type is *organic* wholeness, e.g., the organism, the biological species, and society. This is a superior type of organised wholeness. Its most distinctive features are self-development and self-reproduction of parts. The parts of an organic whole not only shed some of their essential properties once they are isolated, but cannot generally exist in terms of the given qualitative definiteness: no matter how modest a man's place may be on Earth and no matter how little he does, he performs things necessary for the whole. An organic whole is not a mere amalgamation of parts already available in a ready state, say (as Empedocles assumed), individual organs floating in the air, such as heads, eyes, ears, hands, legs, hair, hearts, livers, etc. An organic whole originates together with all its parts. It takes shape as a whole self-divided into parts: sensations, perceptions, notions, concepts, memory, and attention are not scattered; they are tied into one knot, which is known as the consciousness of an individual. The following regularity is to be observed in the correlation of the whole and the part. the more profound and complex the connection is between the parts, the greater is the role played by the whole in relation to its parts and the smaller, therefore, is the relative independence of the parts in respect to the whole.

In principle, there is no limit to the divisibility of objects. But their division will signify transition to a qualitatively different whole: when a pot is smashed to bits, we get crocks, rather than smaller pots. Even rock is "deindividualised" by crushing. But the severed pieces do not decompose; they retain their "face", whereas a branch severed from a tree wilts and decomposes. This is still more true of living organisms.

What an organism has is not parts in the actual sense of the word, but organs. The very term "organism" is evidence thereto. The highest form of organic wholeness is society and the various social formations—the family, state, class, science, art, and the like. Society is an internally partitioned wholeness which originated and now develops under the integrating effect of material production. The universal regularities of the social whole deter-

mine the substance of all its parts and the trend of their development, for a part comports itself in accordance with the essence of the whole.

The Methodological Role of the Categories Part and Whole. When describing the method of scientific cognition, Marx noted that the object under study must continuously "hover" in our consciousness as something whole for us to conduct our analysis in the desired direction. When investigating a whole, we single out in it the corresponding parts by means of analysis and explore the nature of their connection. A system may be conceived as a whole only after we determine the nature of its parts. For example, it was impossible to determine the nature of atoms before we obtained data about their complex structure.

Every organ is adapted to perform an appropriate function, and is structured in accordance with this function. Its method of operation is modelled not only by its inner structure, but also by the nature of the organism whose organ it is. The purpose of the heart will be incomprehensible, until we consider it as part of the organism as a whole. We would be wasting out time to try and grasp the nature of man outside his connection with society. Yet, to this day, many idealist philosophers endeavour to discuss man in just this vein, isolating him from society and robbing him of his real social connections and relations, without which no real man exists.

The methodological fallacy of mechanistic materialism is that it considers the whole invariably to be purely and simply the sum of its composite parts. The parts of a whole are said always to possess fewer properties than the whole; ultimately, the qualitative diversity of things is considered to be no more than a variety of combinations of unqualified particles of matter.

Though we reject the summative approach, which reduces the whole mechanistically to a sum of parts, we must never make a fetish of wholeness, as do some idealists, notably the exponents of holism (Smuts, and others).¹ The holists misinterpret the correct principle that the whole contains more than the sum of its parts, drawing the false

¹ The term "holism" derives from the Greek word *holon*, meaning "whole".

idealist conclusion that this "surplus" is a creative spiritual factor outside the real evolutionary process and setting the direction for the development of the world. The integral factor of wholeness is taken to be a force creating all types of wholeness, from atoms and molecules to the human personality as the highest expression of wholeness. This force has a special, spiritual content and transcends the world of material things

The dialectico materialist conception of the part and the whole defines the whole not as a sum of parts, but as something greater, created by virtue of the definite mode of connection of the elements of the given structure. We know that the mass of a nucleus is less than the sum of the mass of all its particles—the protons and neutrons. This is because the mass of a nucleus is not a mechanical sum of the mass of its component particles. It depends also on the energy of the connection of these particles, the structure of the nucleus, etc

No field of knowledge can get along without the categories of part and whole. They have immense methodological importance not only in science, but also in art. Painters, for example, know perfectly well that the secret of a work of art lies in the proper correlation of its parts and the whole. In a musical composition every note is determined by the general theme and is worked organically into the melody. In architecture, too, the ensemble is but a relation of the whole to its parts

All this speaks of the need for a dialectical approach to the categories of whole and part. They must be examined from the standpoint of their mutual connection and their unity.

§ 4. Content and Form

The Concept of Content and Form. Every object in reality has form, structural organisation and specific content. *The content is the unity of all the composite elements of an object, of its properties, inner processes, connections, contradictions and tendencies.* Different things may be constituted of the same elements. It is the specific mode of connection of the elements in a given object that makes up

its structure, which endows the object with relative stability and qualitative definiteness.

In the aggregate of all the elements of the rich and varied content of objects we can single out the basic and decisive, which determine the fundamental content of the object. At the present stage of man's history, for example, there are many sides and factors of development, yet the main one is the transition from capitalism to socialism. This is why the Declaration of the Meeting of the Representatives of the Communist and Workers' Parties of the socialist countries stresses that "the main content of our epoch is the transition from capitalism to socialism which was begun by the Great October Socialist Revolution in Russia".¹

Apart from content, every object has a definite form. *Form is the mode of organisation of the elements of content, the law of their structure, their interconnection, and also the character in which the content manifests itself.* In a mode of production, for example, the productive forces are the content, while the relations of production are the form. Any essential change of form is linked with a change of quality. Form is the system of mutual relations between the parts of a whole.

Form may be internal and external. For example, in a work of art the plot, the mode of connection between the artistic images, the ideas comprising the content, constitute the internal form. The external form consists of the sensorily perceived image of the work, its outer appearance. The structure of water is the mode whereby molecules of H_2O in a state of liquid drops are connected by the electrical power of attraction, while the fact that water assumes the shape of the vessel in which it is placed constitutes the external form. The external form expresses the connection of the given object with other objects.

The Unity and Interrelation of Form and Content. The form and content are a unity: there can be no content without form, just as there can be no form without content. Their unity is expressed by the fact that a definite content necessarily assumes a definite form.

The unity of form and content is contradictory. Content

¹ *The Struggle for Peace, Democracy and Socialism*, Moscow, pp. 6-7.

is the leading side of this unity. Any change of objects usually begins with the content, which is more mobile than form. A form that corresponds to the content facilitates and accelerates the development of the content. In the course of development there inevitably comes a time when the old form ceases to correspond to the changed content and begins to act as a brake on its further development. A conflict then ensues between form and content, culminating in the break-up of the obsolete form and the emergence of a form consistent with the new content. The new form exerts a strong influence on the content, furthering its development.

For example, in the development of living organisms mutation begins as a rule with changes in the activity of the organs of the body under the impact of a changing environment. The structure of the organs undergoes no substantial change at this time. But sooner or later, the contradiction between the new content, the vital activity of the organism, and its old structure is resolved through changes in the structure and form.

The unity of form and content presupposes their relative independence and the active role of form in relation to content. We see the relative independence of form in, say, the fact that it may lag somewhat behind the development of content. Any change of form is a reorganisation of the pattern of connections within the object. This process occurs in time and is effected through contradictions or collisions. This is why such a reorganisation of content "lags behind" the motion of content itself.

For example, being form in relation to the productive forces of society, relations of production in the early and ripe stages of a social formation correspond to the tendency of the development of the productive forces, whereas they lag behind, and act as a brake on the development of content when that formation declines (e.g., capitalism in its imperialist stage).

In social history old forms perish irretrievably sooner or later, because they impede its progressive movement, while new forms, necessary for the victory of the new content, triumph. Just as the feudal socio-economic formation once gave way to the capitalist, so capitalism is sure to perish all over the world. Our generation is witnessing the substi-

tution of new, socialist relations of production engendered by the development of the productive forces, for the outworn bourgeois relations of production.

We know from the history of science how obsolete methods of thinking, which have become ready made stereotypes, lag behind the content of new ideas.

The relative independence of form and content is evident also in that one and the same content may assume different forms. For example, socialist property in the Soviet Union exists in two forms—the form of state property and the form of co-operative property. The working class dictatorship, too, has the political form both of Soviet power and people's democracy. And socialist culture has a variety of national forms.

The dialectical conception of form and content is highly important methodologically. In bourgeois philosophy and art, the correlation of content and form is usually perverted, with form being divorced from content and treated as an absolute. Hence the extreme formalism and abstractionism in art. All formalism, which pushes form to the forefront, is foreign to dialectical materialism. However, the importance of form should not be underrated; the struggle against formalism does not signify any lack of concern for form.

This is particularly important for creative art, where mastery over form is essential in order to create works of great content. The more the form of a work of art conforms to its idea, said G. Plekhanov, the more successful it is. All the great works of art delight us with their beauty because in them form and content constitute an organic unity.

Form in general can play a very big role in the organisation and development of content. It is essential to bear this in mind not only in theory, but also in practice, in which skilful use of the active role of form in organising labour, the production process, distributing manpower, and organising a struggle, may decide the outcome of an undertaking. Lenin said with regard to the labour movement that the proletariat has no other weapon but organisation in the struggle for power.

The complex and rich content of a revolutionary movement must have definite organisational forms. Hence the

immense importance of the various forms of the working-class struggle—the economic, ideological and, above all, political. This is also true of all the forms and types of working class organisations—the trade unions, mutual aid societies, cultural and educational organisations, and, most particularly, political leagues and parties of the working class. As the international working class movement develops, international forms of organisation of the joint and common struggle of the different contingents of the working class are gaining tremendous importance. The strength and cohesion of the working class, and consequently the efficacy of its efforts, are directly proportional to its standard of organisation and its sense of purpose. Not only is it necessary to break down old forms and replace them with new ones, but also, in certain cases, to employ some of the old forms. In his *"Left-Wing" Communism—an Infantile Disorder*, Lenin pointed out that in definite historical conditions the developing new content not only breaks up old forms and assumes new ones, but also uses some old forms, adapting them to promote accelerated development. "From the standpoint of the development of international communism," Lenin wrote, "our work today has such a durable and powerful content (for Soviet power and the dictatorship of the proletariat) that it can and must manifest itself in any form, both new and old; it can and must regenerate, conquer and subjugate all forms, not only the new, but also the old—not for the purpose of reconciling itself with the old, but for the purpose of making all and every form—new and old—a weapon for the complete and irrevocable victory of communism."¹

The revolutionary forces in every country have to decide which of the old forms may be used to speed up the transition from capitalism to socialism in conformity with the specific national conditions.

It is highly important in analysing and selecting the appropriate forms of struggle for socialist revolution and the building of a new society to lean on the following dialectical regularity: *the universal and common content of the processes of development may assume a large variety of forms*. This regularity is conditioned by the unity of the

¹ V. I. Lenin, *Collected Works*, Vol. 31, p. 103

material world, the multiplicity of forms and types of matter in motion, and the large variety of properties possessed by the aspects, connections and relations of material reality.

Proceeding from this objective dialectical regularity and applying it to the laws of revolutionary struggle, Lenin set out the following, theoretically and practically important proposition in his *State and Revolution*

"Bourgeois states are most varied in form, but their essence is the same all these states, whatever their form, in the final analysis are inevitably the *dictatorship of the bourgeoisie*. The transition from capitalism to communism is certainly bound to yield a tremendous abundance and variety of political forms, but the essence will inevitably be the same: *the dictatorship of the proletariat*."¹

This profound Leninist proposition, based on an exhaustive scrutiny of the essence of the laws of social development and revolutionary struggle, orients the working class and its parties to be broad, free and creative in analysing and selecting concrete forms and methods of struggle. Firstly, this applies to the struggle for socialist revolution in different countries and in different specific conditions and, secondly, to the selection of the forms of organisation of working-class political power, the establishment of the form of proletarian dictatorship more desirable for this or that country. Thirdly, it applies to the choice of methods and concrete ways, means and forms of building socialist society in countries with different historical, national, and cultural backgrounds and traditions

The maturity and skill of political leadership lies precisely in the working out of the necessary and most effective forms and methods of struggle to ensure the performance of the chief revolutionary tasks in all the decisive stages.

§ 5. Essence and Appearance

The Concept of Essence and Appearance. The development of cognition is a ceaseless movement of thought from the external, the apparent, to the more profound, the con-

¹ Ibid., Vol 25, p 413

cealed—to the essence. The essence of things is something that lies beyond immediate perception. Man's thought probes endlessly deeper from the appearance to the essence, from the essence of, so to speak, the first order, to the essence of the second order, and so on *ad infinitum*. The process of cognition, Lenin wrote, is an "endless process of the deepening of man's knowledge of the thing, of phenomena, processes, etc., from appearance to essence and from less profound to more profound essence".¹

The concept essence is close to, but not identical with, the concepts universal, whole, content, and the internal. *Essence is the main, the basic, the determinative in an object.* It is the inner, usually concealed, basis of things and processes. Processes of development always have objective laws as their essence. Lenin wrote: ". law and essence are concepts of the same kind (of the same order), or rather, of the same degree, expressing the deepening of man's knowledge of phenomena, the world."²

We describe the essence of an object by means of categories close to, but not identical with, the essence, such as the individual in plurality, the universal in the individual, the stable in the changeable, and the law-governed in motion.

For example, the essence of a living body is, above all, its metabolism. Metabolism is the basis of all vital functions, the inner nature of every living body. All the other vital manifestations—excitability, the faculty of reduction, the capacity for growth, self-reproduction, movement—follow out of metabolism, which is an essential function of albumen

In social phenomena, too, the essence expresses the principal side of processes. For example, private ownership of the means of production is the essence of the capitalist mode of production. This essence manifests itself in competition, anarchy of production, exploitation of man by man, and proprietorial ideology. The dominance of the monopolies, which has supplanted competition, is the essence of imperialism. From this dominance flow all the other properties of imperialism, and notably the fact that

¹ V. I. Lenin, *Collected Works*, Vol 38, p 222

² *Ibid*, p 152.

capitalists belonging to the monopoly group receive high monopoly profits.

In contrast to capitalism, socialism has for its essence public ownership of the means of production, absence of exploitation of man by man, increasingly complete satisfaction of the growing material and cultural requirements of the people through unceasing development and improvement of social production, social development according to plan, socio-political and ideological unity of the people, and a new, superior democracy.

What, then, is appearance? It is the outer revelation of the essence, the form in which essence manifests itself. As distinct from essence, which is concealed from man's view, appearance lies on the surface of things. But appearance cannot exist without that which is revealed in it, that is, without essence.

Essence reveals itself inevitably in one way or another. Appearance shows nothing but that which exists in the essence, and the essence has nothing that does not reveal itself. In appearance the essential is connected with the non-essential, the accidental. Appearance may or may not correspond to its essence. Essence reveals itself in a mass of appearances and in an individual essential appearance. In some appearances, essence manifests itself fully and "transparently", while in others it manifests itself covertly and indefinitely.

The distinction and connection between essence and appearance is strikingly illustrated by Lenin. He describes the precipitous movement of water in a river, and writes: "The unessential, seeming, superficial, vanishes more often, does not hold so 'tightly', does not 'sit so firmly' as 'essence': the movement of a river—the foam above and the deep currents below. *But even the foam* is an expression of essence."¹

Essence and appearance are unbreakably connected and dialectically interdependent. The dialectical method of thinking enables us to distinguish the essential from the non-essential, the apparent; the criterion for this distinction is furnished by social practice. At the same time, the dialectical approach indicates that their objective distinction is relative, rather than absolute. For example, at one

¹ Ibid, p. 130.

time atomic weight was considered the essential property of a chemical element. Now we know that the charge of the atomic nucleus is the essential property. This does not mean that atomic weight has ceased to be an essential property. It is essential, so to speak, in the first approximation (an essence of a less profound order), since it is itself predicated by the charge of the atomic nucleus.

Semblance (or Show). Often, in the process of sensory cognition, phenomena seem different from what they are in reality. Let us define this as semblance. But semblance is not purely a product of our consciousness. It arises as a result of the influence of real relations on a subject engaged in observation. Semblance also depends on the eyes that see. Those who maintained that the Sun revolved round the Earth, took the seeming for reality. We see, and it seems to us, that railway tracks contract as they run on, and that the rails finally converge and cross paths in the distance.

Under capitalism, a worker's wage appears on the surface to be a payment for all of the worker's labour, whereas the capitalist pays for but a part of it and appropriates the rest.

The category of semblance, or show, is applied chiefly when the essence obviously does not coincide with its revelation, its appearance. Marx noted that the disparity between the essence and the form in which it manifests itself often assumes the nature of an obvious opposite. In such a case, he wrote, a very complex scientific analysis of the seeming is necessary to reveal the essence. If, Marx noted, the form in which a thing manifests itself coincided with the essence, science would be redundant. In the real process of cognition, science does not neglect the external side of phenomena. It studies this external side in order to seize the intrinsic essence beneath the appearance of processes "Dialectics," Lenin wrote, "calls for a many-sided investigation into a given social phenomenon in its development, and for the external and the seeming to be reduced to the fundamental motive forces, to the development of the productive forces and to the class struggle."¹

The perception of the surface of things and processes and

¹ V. I. Lenin, *Collected Works*, Vol. 21, p. 218

the cognisance of their essence are unbreakably connected. It is impossible to gain a knowledge of the intrinsic basis, the essence, without a reflection of the external, the seeming, that which man perceives directly. On the other hand, the cognised essence is highly important for a proper appreciation of the surface of phenomena. For example, in the capitalist world competition is an external, directly perceived contradiction between capitalists. To understand this phenomenon deeply and correctly it is necessary to know the essence of the capitalist mode of production. Marx wrote: "This much is clear; a scientific analysis of competition is not possible, before we have a conception of the inner nature of capital, just as the apparent motions of the heavenly bodies are not intelligible to any but him, who is acquainted with their real motions, motions which are not directly perceptible by the senses."¹

This is of extraordinary importance in our time as well. A correct analysis of all the phenomena of modern capitalism, including the seeming "prosperity" of the big cities with their sparkling department store show-windows, has got to be based on an appreciation of the capitalist system, the essence of all the social relations of capitalism, which are founded on exploitation and oppression.

It is only natural that the imperialist ideologists, who want to perpetuate capitalist exploitation, invent all sorts of sophisms to aver that there is no such thing as exploitation in bourgeois society and that its essence is something quite different. Take their contention about "people's capitalism", which has ostensibly materialised in the United States and other imperialist countries. The preachers of "people's capitalism" spurn the objective economic laws of capitalism, which reveal its true essence, and prattle about absence of exploitation in the capitalist countries about class peace, and the like. Though Marx referred his following remark to the ideologists of the earlier stages of capitalism, it applies equally to those of its final stage. "It was thenceforth no longer a question, whether this theorem or that was true," he wrote, "but whether it was useful to capital or harmful, expedient or inexpedient, politically dangerous or not. In place of disinterested inquirers,

¹ Marx, *Capital*, Vol. I, Moscow, 1959, p. 316.

there were hired prize-fighters; in place of genuine scientific research, the bad conscience and the evil intent of apologetic."¹

Modern bourgeois philosophers produce theoretical arguments to back up the various conceptions of essence and appearance brought forth by bourgeois ideologists. The various philosophico-religious "doctrines" are the most widespread form of perverting essence and appearance. All of them agree in that phenomena in the world are expressions of the ultimate, mystical essence which Christians call God, Jewish rabbis call Jehovah, Moslems call Allah, etc. As a rule, these religious notions about the divine essence of the world are used in the interest of the governing exploiting classes. If God is at the bottom of everything, they say, and if all things are determined by a divine will, the people can do nothing but reconcile themselves to it, pray, abandon all action and all struggle against the existing order. The modern Thomists follow the same pattern. Just as in the Middle Ages, the neo-Thomists demand that philosophy be an obedient servant of theology, that reason submit to faith and science to religion. They juggle diverse categories, the category of essence included, to align them with religious dogmas, with the "truth of revelation". They say that an eternal immutable essence expressing the reason of God lies at the root of all existence. All phenomena of the surrounding world, they say, are nothing but different forms and types in which this ultimate divine essence manifests itself.

Similar views are expounded by the personalists. Ralph Flewelling, the U.S. personalist philosopher, refers to a "supreme creative Intelligence" which determines the essence of all surrounding phenomena and constitutes "the world-ground and source of all reality".² According to the personalists, the individual (persona) as a spiritual substance determines the essence of the Universe.

All this is a system of entirely arbitrary and groundless contentions. What grounds, we ask, are there for inferring the existence of a "supreme Intelligence" in the Universe? Science has proved that consciousness does not appear until

¹ Marx, *Capital*, Vol. I, Moscow, 1959, p. 15.

² *Twentieth Century of Philosophy*, New York, 1947, p. 324.

a definite stage in the development of matter and that it is a property of only highly-organised living organisms. There is no intelligence in inorganic matter, there is none in the stars, in the galaxies, nor in cosmic dust. The Universe is matter in motion, infinite in space and time and this is the essence of the whole surrounding world.

Let us note in conclusion that a knowledge of the dialectic of essence and appearance is important not only for theoretical debates with bourgeois ideologists, but also for practical activity. It is particularly important to probe the contradictions in the very essence of the development processes, that is, to reveal the intrinsic contradictions which determine development. Contradictions in the essence mean that essence should not be approached dogmatically, that it must not be considered as metaphysically congealed and immutable. It is essential to approach the question concretely and dialectically. This proposition, which is of direct practical importance, was underscored by Lenin when he wrote that "Dialectics in the proper sense is the study of contradiction in the very essence of objects: not only are appearances transitory, mobile, fluid, demarcated only by conventional boundaries, but the essence of things is so as well."¹ All this shows again that it is necessary to distinguish clearly between appearance and essence, to study deeply the intrinsic, conflicting essence of things from the standpoint of their endless motion and mutation.

§ 6. Cause and Effect

The Concept of Causality. Every event is the result of another event. Everything originates from something or because of something. *When one phenomenon gives birth or determines another phenomenon, the first is said to be the cause and the second the effect.*

The cardinal premise of every scientific investigation, says Max Planck, the prominent twenty-century physicist, has been the assumption that a firm law-governed connection known as the law of causality exists in all the events of the natural and spiritual world.

¹ V. I. Lenin, *Collected Works*, Vol. 38, pp. 253-54.

There is a sequence in time as regards cause and effect: first there is the cause, and it is followed by the effect. The time interval is a lag between the beginning of the cause (e.g., the interaction of two systems) and the beginning of the appropriate effect.

A line of distinction should be drawn between immediate and mediate causes, that is, causes which directly induce and determine an action and causes which induce and determine an action through a series of intermediate links.

The cause is active and primary in relation to the effect. However, "after this" does not always mean "because of this". For example, day follows night and night follows day. Yet day is no more the cause of night than night is the cause of day. The cause of their alternation is traceable to the rotation of the Earth round its axis.

Notions of causality were evoked in man's consciousness by his practical activity. Man would never have learned that fire can keep him warm if he had not perceived it in his daily experience.

Knowledge of causal connections is of extreme importance for man, society and science. Without such knowledge man would be handcuffed. He would not be able to influence the world, nor to foresee anything. Our confidence in life rests on our recognition of causality and regularity.

Science, particularly natural science, distinguishes between complete and specific, principal and non-principal causes. *The complete cause is a totality of all events under the action of which an effect arises.* It is only in fairly simple events, involving a relatively small number of elements, that we can establish the complete cause. Usually, investigation aims at determining the specific causes of events. *The specific cause is a totality of a number of circumstances whose interaction induces an effect.* It should be borne in mind that specific causes give rise to an effect in the presence of many other circumstances which existed in the given situation before the effect began. These circumstances comprise the conditions for the operation of the cause. The specific cause consists of the more essential elements of the complete cause in a given situation. The remaining elements of the complete cause act as conditions for the operation of the specific cause. Sometimes, several circumstances act jointly as the cause of an event, each of these

circumstances being necessary but insufficient by itself to induce the phenomenon.

There are intrinsic and external causes. The intrinsic cause is one that operates within the framework of a given system. The external cause characterises the interaction of one system with another. For example, development of production is the intrinsic cause of the movement of human society. Class struggle is the intrinsic cause of development in bourgeois society. External causes, too, have substantial weight. Take the interaction of the organism and its environment, of society and nature, and the relations between states. National liberation revolutions cannot be examined in isolation from the world revolutionary movement and, above all, the world socialist system.

Causes may be objective and subjective. Objective causes are causes which operate independently of the will and consciousness of people. Subjective causes, on the other hand, are engendered by man's purposive action, his determination, organisation, experience and knowledge.

It should be borne in mind, therefore, that the higher is the consciousness and organisation of men, the more effectively do their actions accelerate the progress of history. Conversely, men's mistakes, incorrect analyses of the situation, and premature, half-cooked decisions slighting the experience and conclusions of science, act as subjective causes that retard the process of development. It follows that man must lean on the operation of objective causes and make use of positive subjective causes, while avoiding and removing negative subjective causes which impede his advance and prevent him from making correct decisions.

Certain conditions are essential for a cause to induce an effect. *Conditions are such phenomena which are necessary for the inception of a given event, but ones that do not induce this event themselves.*

Lenin pointed out, when he examined the causes and conditions of destroying the bourgeois machinery of state, that propitious conditions alone were insufficient, that the machine would not collapse of its own if it were not pushed. It took the energy of the revolutionary masses to do so. While conditions cannot by themselves induce an effect, the cause, too, is powerless without them.

There is ceaseless interaction between cause and effect.

Whereas the existence of, say, plants served as a necessary condition for the origin of animals, the appearance of animals, in turn, exerted a tremendous influence on the subsequent life of plants. Herbivorous and browsing animals, rodents, locusts, insects pollinating plants, etc., exercise a very strong influence on vegetation. The continuous nuclear reaction in the Sun is another example of interaction: the process in which atoms of hydrogen turn into atoms of helium generates a high temperature (of millions of degrees), which induces the synthesis of helium atoms from hydrogen atoms.

We also see interaction in social affairs. For example, a big demand for a commodity induces increased production of this commodity. Increased production, for its part, gives rise to greater demand. Cause and effect change places.

In a self-developing system of natural or social phenomena, the cause of its existence ultimately becomes its own effect and product. For example, theory is not only an effect of practice. Originating on the basis of practice, theory exerts a reciprocal influence on practice.

The interaction of cause and effect is added evidence of the dialectical nature of these two categories.

Dialectical and Mechanistic Determinism Determinism is a world outlook which takes all phenomena of nature, society and consciousness to be connected with each other through natural causal connections and thus to determine each other.

Scientific thought rejects both the "original" and the "ultimate" cause. Causal determination is infinite. There can no more be an initial (that is, causeless) cause than a final (that is, effectless) effect. To assume an original cause is to tear down the principle of the universality of causal determination, to assume in the teeth of scientific data that something causeless is possible. Yet this is precisely what religion assumes by taking God to be the "cause of causes".

Dialectico-materialist determinism recognises the multiplicity of types of causal connection, depending on the nature of the laws governing the respective sphere of phenomena. It is incompatible with mechanistic determinism, which interprets the multiplicity of causes merely as mechanical interaction. The exponents of mechanistic

determinism overlook the qualitative singularity of the laws governing various forms of motion of matter and deny the objective nature of accidents. Pierre-Simon de Laplace produced the classical definition of mechanistic determinism: if there were a brain informed at a given moment of all the forces of nature at all the points where these forces are applied, he said, nothing would remain unauthentic for it, and the future, like the past, would rise before its gaze.

Mechanistic determinism leads to fatalism, to a belief in fate. Scientific development gradually ousted mechanistic determinism from social affairs, from organic nature and from the sphere of physics. It is applicable in computations related to engineering, bridge building, and the like, but cannot elucidate the laws governing such things as microparticles, biological phenomena, psychical activity and social affairs.

The question of causality is an object of bitter struggle between materialism and idealism. The idealists either deny causality entirely, reducing it to a mere succession of impressions habitual to man (e.g., Hume) or treat it as a priori phenomena introduced into the world by the subject (e.g., Kant), or still as a product of the absolute spirit, world reason (e.g., Hegel).

Modern bourgeois philosophers endeavour to deny the principle of causality on the strength of falsely interpreted scientific facts, notably those of quantum physics.

There is no strict definiteness in the motion of microparticles. The electron may appear in the most unexpected places. It is impossible to predict the trajectory of its motion as precisely as, say, that of a planet. Hence the illusion that an electron possesses "free will", "freedom of choice" in motion, etc. If, the bourgeois philosophers infer, natural phenomena make their own choice, that is, if they possess will, we can never know how this or that phenomenon will behave in the future. Rejection of the principle of causality leads inevitably to a denial of the possibility of scientific prediction, which robs all science, whose basic purpose is to foresee the future, of its very foundation. It is not surprising, therefore, that idealism and religion grasped at this interpretation of phenomena in the microcosm.

Actually, there is no negation of causal connections in the microcosm. Modern quantum mechanics has established

the limitations of the old notions about mechanical causality. Causal relations in the microcosm are more complex and contradictory than was earlier thought and cannot fit into the old notions and conceptions. Yet there are obvious causal connections in the motion of microparticles of matter and it is up to science to express these connections as precisely and deeply as possible. Under the influence of the genuinely scientific results of quantum mechanics, Niels Bohr, one of the most eminent physicists of our time, has had to admit that these results are a "rational generalisation of the very ideal of causality".¹ Science, as we see, confirms the dialectico-materialist conception of causality.

The reactionary class purport behind the teachings on causality of the modern idealists comes into bold relief when they elucidate social phenomena. Some of them deny out of hand causal dependence in the history of society. Others ignore the material economic causes, and instead offer ideal motives, social instincts and divine predestination. But all of them deny in one way or another the objective regularities of social development. Bourgeois ideologists are exerting themselves to divert the masses from cognising the causes for the inevitable collapse of capitalism and the necessity of a revolutionary reconstruction of society. But it is an impossible task, because the collapse of capitalism and the victory of socialism is an objective law of history expressing the operation of profound, intrinsic causes of historical development.

Causality and Purposefulness. Idealist philosophers endeavour to substitute the idea of purposefulness for causality. They expound so called teleology, assuming that everything has a purposive orientation.² The concept purpose presupposes someone who sets it. In this respect, teleology leads directly to theology. Teleology rejects the causal explanation of why a natural phenomenon occurred, and advances conjectures as to the purpose of its occurrence. Yet it is just as ludicrous to ask nature why it has created so bizarre a world of forms and colours, as though it were a

¹ N. Bohr, *Discussion with Einstein on Epistemological Problems in Atomic Physics* Albert Einstein *Philosopher Scientist*, Evanston, 1949, p. 211.

² The term teleology derives from the Greek word *telos*, meaning purpose, goal, end.

reasonable being, as it is to accuse nature of evil intent when it produces freaks.

From the idealist standpoint everything is directed towards perfection and nature operates "for the sake of something", thus imitating a reasonable being. Purposefulness is said to be present in all the works of nature. William Hocking, a U.S. idealist philosopher, believes that causality is the method whereby purposes materialise in nature. Ralph Flewelling, the personalist, ascribes the adaptation of organisms to the environment to "a reasonable planning force".

To back their views, teleologists usually refer to the purposeful structure of organisms in nature. Purposefulness in nature does, indeed, strike the eye and confound the imagination. Examine the wing of a butterfly, the behaviour of ants, of moles and fishes, and you will see how ingenious and purposeful they are. Yet the teleologists proceed from this to the absurd conclusion that, for example, cats are created to devour mice and mice exist to be eaten by cats. Voltaire observed caustically that flies are born to be devoured by spiders, and men by grief. The whole process of the evolution of the animate world had man for its purpose, says teleology, while all other animals were created for man to have favourable living conditions.

The relative perfection which enables animals and plants to find their bearings to best advantage in the environment, their adaptation to surrounding conditions and the adequacy of their reactions to external influences, are a real fact. For example, the stem of a plant may, by design, serve as a model for the architect who sets out to create the strongest possible construction of the lowest possible weight with the least possible outlay of material. Spinoza advised against gaping at nature "like a fool", to "look for the true causes of the wonders", and to "consider natural things as a scientist". Darwin followed this advice and discovered the natural mechanics behind the amazing adaptability of organisms to their environment. His theory of natural selection demonstrated that the "unearthly" charm of the flowers existed not to indulge our aesthetic senses and not to prove the refined taste of the "almighty", but to satisfy the most earthly and vitally

important need of vegetative organisms—the normal sexual process (pollination) and continuance of the species.

Changes in the world of animals and plants originate through their interaction with the environment. If these changes turn out to be beneficial to the organism, that is, help it to adapt itself to the environment and to survive, they are retained through natural selection, consolidated through heredity and passed down from generation to generation, producing that purposeful structure, that adaptation to the environment, which so frequently stagger men's imagination.

Kliment Timiryazev, the Russian natural scientist, pointed out that this is selection without a selector, self-operating, blind and merciless selection, functioning untiringly and unintermittently for countless centuries, selecting equally the big external features and the most negligible of details in the intrinsic structure, with the sole provision that they should be beneficial to the organism. Natural selection, he said, is the cause of the perfection of the organic world, while time and death are the regulators of its harmony.

All this is evidence that the notion of "predetermined harmony" in the world, postulated by idealists and theologians, is entirely fallacious. In fact, all phenomena in nature and society are determined by their profound and diverse causal connections and relations, which are objective.

§ 7. Necessity and Chance

The Necessary and the Accidental. Nothing can arrest the motion of celestial bodies and the world's development. Similarly, nothing can turn back the clock of history and avert the inescapable downfall of the capitalist system. People have long since noticed that events in nature and society occur with inexorable impact. This led them to both correct and incorrect conclusions. Whatever happens, religiously-minded people say "What had to be, had to be". Belief in fate is called fatalism. It is a blind belief, tied up with religion and springing from the false proposition that everything in the world and in men's lives is preordained and predetermined by God.

There were philosophers who did not believe in God, yet thought that absolutely everything in the world occurred through necessity. Everything we see, they said, could not be different from what it is.

From the correct proposition about the causal determination of all phenomena in nature and human society, many scholars and philosophers proceeded to the incorrect conclusion that there is only necessity in the world, and no accidental phenomena at all. Spinoza maintained that phenomena are considered accidental solely because of our insufficiency of knowledge. Yet he was wrong. He confused two different concepts—necessity and causality. It is quite true that causeless phenomena are non-existent. But accidental phenomena are causal, though this does not make them necessary. Not everything is evoked by necessity. In the objective world, chance plays a definite, though limited, role.

In the world, everything follows definite laws. But the shape in which an individual event occurs is chance. *Necessity expresses solely the essential connections and tendencies, while the life of every individual object aggregates from both essential connections and tendencies, and from the influence of a variety of other connections and tendencies.*

Chance may be intrinsic and external. For example, a man may step on a banana peel and fall. This is an external chance. There is a cause for his falling, but it does not flow from the logic of the man's acts. He may not have fallen. Here, an external chance invades the normal flow of human action.

What is an intrinsic chance? According to Darwin's theory, imperceptible accidental changes of organisms, beneficial to them, are consolidated by heredity, invigorated in the course of evolution, and lead to the mutation of a species. Intrinsic accidents flow from the nature of the object through which the normal process is realised; they flow from a given necessity as one of its manifestations. Chance is not rooted in the essential properties and relations of the object. It is not something historically prepared by the development of the given object. *Chance is something that, in given conditions, may be and may not be, that may occur thus but may occur differently.*

Accidental and necessary events keep occurring in the surrounding world and in people's lives. To deny objective accidents, or to reduce everything to accidents, is equally wrong from the scientific, as well as the practical point of view. If he takes everything to be equally necessary, man will be unable to distinguish the essential from the non-essential, and the necessary from the accidental. Necessity, Engels said, is reduced in that event to the level of chance. But what is necessity?

Necessity is what cannot but occur in given conditions; it is a development of phenomena which flows inevitably from the intrinsic, essential interrelations of these phenomena. For example, the victory of communism, of the new social system, is necessary. It flows from the essence of social development. It is bound to take place throughout the world. The cause of this is rooted in the intrinsic regularities of social development.

The necessary contains the cause in itself, while the accidental contains it in something else, in a crossing of different causal connections comprising the conditions. Necessity can also be intrinsic and external, that is, engendered by the object's own nature or by a combination of external circumstances. It may be typical for many objects or for an individual object. Necessity is an essential aspect of a law. This is why the category "necessity" is closely connected with the categories "regularity" and "causality".

The Dialectic of Necessity and Chance. It is wrong to think that phenomena are either only necessary or only accidental. It is the dialectic of necessity and chance that chance is either a form in which necessity manifests itself or a complement to necessity. Consequently, chance ought to take place within the context of necessity. Why does necessity manifest itself as chance? Because the universal, the law-governed, manifests itself solely through the individual, while a countless number of circumstances participate in the origination of the individual and leave a stamp of unrepeatability on this individual.

Chance exerts an influence on the development of the necessary process. It may either accelerate or retard it. Very frequently, chance enters so directly into the necessary process that it becomes necessity. For example, the necessary properties of a biological species originally

appeared as accidental departures from the properties of another species. This sort of chance imparts life and perspective to necessity.

Chance has multifarious connections with necessity. By virtue of this fact, necessity manifests itself in the form of chance and the line between chance and necessity is never distinct. However, the main trend of development is determined by necessity.

Take the preparation for and effectuation of the socialist revolution. To begin with, this revolution is accomplished through the activity of men, through their persevering struggle, for without these the revolution cannot win. The victory of the revolution requires mass heroism, which is roused by necessary rather than accidental causes and laws of the class struggle. Hence the extremely important task of the revolutionary forces to cultivate this heroism and aim it in the desired direction towards decisive victory. Lenin pointed out that "for a revolution to take place, it is essential ... that a majority of the workers (or at least a majority of the class conscious, thinking, and politically active workers) should fully realise that revolution is necessary, and that they should be prepared to die for it".¹

This gives rise to another, most important aspect in the practical activity of the revolutionary forces: the necessity of educating every member of the Party, every worker, every revolutionary, in the spirit of truly revolutionary ideas and principles. This has a direct bearing, too, on the choice, distribution and use of Party cadres.

The dialectic of necessity and chance has to be taken into account in practical and creative activity. Man must not rely on chance. While not relying on chance, however, he must never neglect favourable accidents. Many scientific discoveries and technical inventions were made by virtue of a favourable combination of accidental circumstances. Yet the principal thing is to orient oneself on the necessary phenomena and processes.

The task of scientific cognition is to penetrate through the apparent accidental connections to the necessary ones. But science grasps not only the necessary. It also takes account of the accidental. It is obliged to equip man with

¹ V. I. Lenin, *Collected Works*, Vol. 31, p. 85.

the means to safeguard society from unfavourable accidents, and to warn about them beforehand.

The development of production and science is releasing man more and more from the thrall of unfavourable accidents. Under socialism, people are gaining added opportunities to control social processes, to plan the economy and culture, and thereby safeguard society from the pernicious action of chance

§ 8. Necessity and Freedom

Freedom is a special dialectical opposite to necessity and is unbreakably connected with it. The concept freedom has been distorted in every way by the ideologists of the exploiting classes, and most assiduously so by the ideologists of the modern bourgeoisie. They strain themselves to present their conception of freedom as "genuine" and the exploiting bourgeois system as a "free society", "the free Western world", etc. In the broadest sense, the problem of freedom is today one of the focal points in the ideological struggle between socialism and capitalism.

Let us consider the concept freedom as a category of materialist dialectics closely connected with the category of necessity.

The works of Marx and Engels contain an exhaustive definition of this important concept of dialectical materialism.

First. In his *Anti-Dühring*, Engels points first and foremost to the fact that Hegel understood the relation of freedom to necessity correctly. According to Hegel, Engels said, "freedom is the appreciation of necessity. Necessity is blind only insofar as it is not understood."¹ "Blind necessity" means that people have not yet learned the objective laws of the world and that the elemental forces of nature dominate them. Consequently, this expression should be understood to mean the blindness of the people themselves, who do not see the causes of the phenomena of nature, life, death, disease, etc. The uncognised economic laws, which led the bulk of the people into one kind

¹ Engels, *Anti-Dühring*, Moscow, 1959, p. 157.

of slavery or another, was a particularly oppressive and crippling force. It follows that to shake off the yoke of "blind necessity", it must be cognised and the acquired knowledge used in the interest of men.

Second. In the conception of freedom it is important to proceed from the fact that mere knowledge of necessity is not enough to deliver man from its pernicious action, just as the mere knowledge of the habits and customs of a prison administration does not release one from confinement in prison. One must not only know, but also learn to use the obtained knowledge. Cognition of necessity is but the basic condition for achieving real freedom, which consists in the practical utilisation of cognised necessity in the interest of men. "Freedom," Engels wrote, "consists in the control over ourselves and over external nature, a control founded on knowledge of natural necessity."¹

Control over external conditions should always be considered concretely and historically. Attention should be centred on whom the cognised laws are being used to benefit. In a class society this cognised necessity—say, of the laws of nature—is used in the interest of the governing classes, in order to increase their wealth. A revolutionary reconstruction of society based on the cognised economic laws of social development is necessary before the laws of science may be used in the interest of the people. We should bear in mind the important pointer made by Engels that the capitalist mode of production and its champions are reluctant to understand "the powerful productive forces, and, as a consequence, these forces become master demons, the enslavement of people occurring through their own means of production". Hence the immense importance of knowing the laws of social development not only in order to understand the essence of historical phenomena, but particularly for the real *emancipation* of mankind. All revolutionary liberation activities of the masses must be based on a profound knowledge of the objective necessity of historical development.

Third. This does not exhaust the concept of freedom. Control over surrounding conditions cannot be an aim in itself. It is a means to a great goal, what Marx called the

¹ *Ibid*, p. 157.

true realm of freedom. All-round and harmonious development of the faculties and abilities of man, which only communist society can provide, is this true realm of freedom. Only under communism can the forces of nature and society, harnessed by science, provide conditions for really free development. In his definition of true freedom, Marx connected it with knowledge of necessity and control over surrounding conditions. Here is how Marx put it: "The realm of freedom actually begins only where labour which is determined by necessity and mundane considerations ceases.... Freedom in this field can only consist in socialised men, the associated producers, rationally regulating their interchange with Nature, bringing it under their common control, instead of being ruled by it as by the blind forces of Nature; and achieving this with the least expenditure of energy and under conditions most favourable to, and worthy of, their human nature. But it nonetheless still remains a realm of necessity. Beyond it begins that development of human energy which is an end in itself, the true realm of freedom, which, however, can blossom forth only with this realm of necessity as its basis. The shortening of the working day is its basic prerequisite."¹

This basic prerequisite of genuine freedom—a planned and progressive reduction of the working day—is beginning to turn from a possibility into reality under socialism, and will reach its necessary culmination under communism. Socialism is the first step toward real, genuine freedom, which paves the way for its higher stage—communism. "The Soviet Union," says the Programme of the C.P.S.U., "will have the world's shortest and, concurrently, the most productive and highest-paid working day. Working people will have much more leisure time, and this will add to their opportunities of improving their cultural and technical level." The road towards the genuine freedom anticipated by Marx's genius, which all countries, all the peoples of our planet, will follow by dint of historical necessity, is thus properly charted.

The above scientific appreciation of freedom in its con-

¹ Marx, *Capital*, Vol III, Moscow, 1959, pp. 793-800.

nection with necessity is a weapon of the masses in their struggle for a new, truly free society.

In contrast to dialectical materialism, idealism and metaphysics detach the concepts of freedom and necessity from each other and interpret them in a false, distorted manner. This is evident particularly in the doctrines of fatalism and voluntarism. Fatalism makes necessity absolute and rejects any and all freedom in the activities of men. With the fatalists the forces of nature and society assume the form of an unknown, mystical force which predetermines everything and in the face of which man is absolutely powerless (fatalism derives from the Latin word "*fatum*", meaning fate, destiny, lot). Fatalism dooms man to passivity, to submission. It prompts a denial of active endeavour and preaches that class struggle is futile. All religious "doctrines" are permeated with fatalist ideas. The will of God is proclaimed an absolute necessity which predetermines all mundane affairs. All a man can do is be the slave of a mystical force and hope for deliverance from earthly torment in the hereafter. By talk of the mystical force in heaven religion shores up slavery on earth.

Voluntarism (a derivative of the Latin word "*voluntas*", meaning will, volition) is another widespread doctrine of the exploiting classes, which one sidedly exaggerates and absolutises the freedom of man's will. From the standpoint of this quasi-scientific philosophy, the history of human society is shaped by the unshackled human will or, more precisely, by the arbitrary will of a great personality. Kings, heroes, generals, presidents, big businessmen, all great personalities, are pictured by the voluntarists as the makers of human destiny. Limitless freedom of action and miraculous powers are ascribed to these personalities, while the true makers of history, the people, are cast in the role of passive material and an inarticulate herd.

Voluntarism assumed a particularly extreme form in the fascist ideology, which identified the will of the *fuehrer* with the law of history. Fascist voluntarism, rooted in Nietzsche's "will for power", even had a philosophical groundwork, the so-called actualist philosophy of Giovanni Gentile, the theorist of Italian fascism, and others. Voluntarism could not care less for the objective laws of

reality. It ignores the action of objective necessity, and therefore collapses inevitably like a house of cards sooner or later.

Voluntarism is a variety of subjective idealism, a philosophy which rejects the existence of the objective world and recognises the reality of nothing but the human consciousness, the reality of nothing but the individual "I", the ego, leading inevitably to the absolutisation of man's will. In one form or another, voluntarist ideas permeate all the schools of modern subjective idealist philosophy. Existentialism, which accentuates the category of freedom and even styles itself the "philosophy of freedom", is most typical in this respect. It is impossible to find the least hint of a scientific and correct appreciation of freedom in the existentialist doctrine. According to the existentialists, freedom is man's assertion of his ego, effected by the selfsame ego, the selfsame personality, unhampered by any external conditions, any objective laws. These voluntarist philosophers declaim volubly about freedom being a freedom of choice as regards solutions and actions which man undertakes exclusively of his own free will in conformance with his views and opinions and irrespective of any objective factors.

All this is absolutely wrong. Choice and adoption of decisions, unless based on a proper appreciation of necessity, cannot lead man to freedom and cannot represent freedom. As a matter of fact, they lead him in the diametrically opposite direction. Freedom of will, Engels pointed out, consists in the skill of adopting decisions based on a knowledge of the circumstances. Knowledge of the circumstances is knowledge of the objective regularities, the objective necessity, to which man is compelled to adapt himself. Acting on cognised necessity, man adopts decisions that lead to freedom. The more free are the decisions of man, the more necessary they are, that is, the more they accord with cognised laws of nature. If man ignores the objective conditions, and makes his choice, as the existentialists prompt him to do, in utter disregard of the objective conditions, he becomes slavishly dependent on these conditions and may even go under. This is the root of the gloomy existentialist sermon about the futility of human existence. The existentialist inference

that suicide is a supreme act of freedom (sic!) is, therefore, quite "logical". Indeed, the problem of suicide, as the French existentialist Camus asserts, then becomes the central problem of philosophy.

The abstract and voluntarist sermon about the freedom of the human ego, tantamount in the final count to reconciliation with the existing capitalist reality, can do little more than nourish delusions and create an emotional impression of personal freedom in the total absence of such freedom. Addressing the preachers of such "personal freedom" in the capitalist environment, Lenin pointed out:

"We must say to you bourgeois individualists that your talk about absolute freedom is sheer hypocrisy. There can be no real and effective freedom in a society based on the power of money, in a society in which the masses of working people live in poverty and the handful of rich live like parasites. Are you free in relation to your bourgeois publisher, Mr. Writer, in relation to your bourgeois public, which demands that you provide it with pornography in novels and paintings, and prostitution as a 'supplement' to 'sacred' scenic art? One cannot live in society and be free from society. The freedom of the bourgeois writer, artist or actress is simply masked (or hypocritically masked) dependence on the money-bag, on corruption, on prostitution."¹

There can be no freedom in a society where some appropriate the labour of others, where production relations are based on domination and subjection, where the results of a man's labour, where his true human essence, are alienated from him. There can be no question of freedom in a society where man is alienated from man, where relations of domination and subjugation reign among men, where men build their welfare at the expense of the freedom and life of other men.

True freedom of person cannot be achieved anywhere, save in a society in which production relations are based on co-operation and mutual assistance, on collective ownership of the instruments and means of production, on the socialist organisation of production. At the same time, freedom implies abolition of any and all types and

¹ V. I. Lenin, *Collected Works*, Vol 10, p. 48

forms of alienation—alienation of labour for the benefit of other men, alienation of man from what Marx called his "generic essence" and, generally, alienation of man from man. It is socialist and communist society that provides all these real conditions for the true and complete freedom of man.

This signifies that the struggle for man's genuine freedom is a struggle against all the varieties of oppression and alienation produced by capitalist society.

§ 9. Possibility, Probability and Reality

The Concept of the Possible and the Real. In the broad sense of the word, *reality is nature and world history, man and his reason, and material and spiritual culture; it is the unity of essence and appearance, of the internal and the external, the necessary and the accidental, the individual and the universal, the cause and the effect; it is the world that surrounds us in all its diversity.*

The concept of reality is also used in a more narrow sense of just *existing, immediate being*. In this sense, reality is opposed to, or correlated with, possibility, that is, with what exists only in the embryo of something else. Reality is what has already originated, materialised, what lives and acts.

The concept of reality is also used in a still more narrow sense, the sense of the wholeness of some quality. For example, people say of someone who lives a full, rich creative life that "it is real, genuine life, and not just existence!" According to Hegel, this is in line with the opinion of educated people who refuse to recognise as a real poet or a real statesman such a poet or statesman who fails to create anything sensible and useful.

Reality is a process, and an intrinsic, concealed moment of various possibilities is essential for it. Any change in the object is a transition from possibility to reality. Possibility is the future in the present; it is something that does not exist in a given qualitative definiteness, but may originate and exist, and thus become reality, in certain circumstances. For example, communism is now a real possibility: we see tangible features of it in Soviet society. As soon

as communism has been built, it will turn from a possibility into reality.

Possibility antecedes reality in time. But reality, being the result of preceding development, is at once the starting-point of further development. Possibility arises in a given reality and materialises in a new reality. The existing being, or, as Hegel put it, "the immediate reality contains the embryo of something entirely different. At first, this something is only a possibility, but this form then discards itself and turns it into reality. This new reality, born in this particular manner, is a truly intrinsic immediate reality which consumes the latter."¹

The exponents of mechanistic determinism assume that all existence is fully predetermined by the past, just as the future is predetermined by the present in the way a sprout contains the full nature of a tree—its shape, colour, and the taste of its fruit—so did the gaseous cloud of dust, which engendered the Sun, the planets and our Earth, already contain the entire subsequent history of the solar system, including the blue eyes, ruddy cheeks and all the other features of any given man. This implies that everything is given at once, and that all the future may be read in the present. If all the possibilities were given once and for all, and no new possibilities ever appeared in the development of matter, the development of matter would be doomed to an inevitable exhaustion of possibilities and the world would resemble the well known hero of Balzac's story, "*La peau de chagrin*", whose days and hours shrank after each of his wishes was fulfilled one by one.

Indeed, development is not simply the unrolling of a scroll of ready-made possibilities. Reality develops as an interminable creation of new forms. A cause merely determines the effects that follow from it directly and is in no way responsible for what these effects will call to life in the subsequent future. Likewise, each given state of things determines not all the subsequent events, but only those which flow from it directly.

The Transition of the Possibility to Reality. Being concealed tendencies that express different directions in the development of an object, possibilities characterise reality

¹ Hegel, *Werke*, Berlin, 1840, Bd. 6, S. 291-92

from the point of view of its future. Two factors are necessary for possibility to pass into reality: the action of the pertinent law and the presence of the pertinent conditions. A system always contains more possibilities than it is able to realise. Darwin, for one thing, observed that every plant contains the possibility of becoming a climber, which possibility turns into reality if the pertinent living conditions are at hand. Every living organism has the possibility of producing colossal posterity. Thus, microorganisms could in a few days yield a mass of living substance exceeding the mass of the globe many times over. A vast number of possibilities remains unrealised. Does man realise all his possibilities? Of course not. The life of every person is strewn with the debris of what he was beginning to be and what he could have become. But he was always faced with just one choice, which crossed out all the others. Each possibility has to contend with numerous obstacles, and a struggle ensues between different possibilities. Life, as it were, selects some and casts off others.

All that exists in reality is the result of the selection of possibilities. Everything in the world is saturated with contradictions. This is also true of possibilities, which can be either progressive or reactionary. For example, when a social revolution is underway it contains two possibilities—victory of the progressive forces and victory of reaction. History knows many cases when reaction took the upper hand for a time. But in the final count, time sides with progress and the latter triumphs sooner or later, thus realising its possibilities.

Like everything else in the world, possibilities develop: some of them grow, while others wither. Thus, the possibilities of liberating the colonial peoples from the enslavement by metropolitan countries are increasing all the time, and have turned into reality in many lands. The possibilities of the colonialists, on the other hand, in oppressing colonies, are shrinking more and more.

In nature, the transformation of a possibility into a reality is, by and large, spontaneous. In human society it is not. History is made by people. This is why a lot depends on their will, consciousness, and activity. Today, for example, the possibility exists to safeguard peace. But this possibility becomes reality only through the active and

persevering struggle of all the peace loving forces of mankind.

The conditions of socialism contain everything necessary to turn the possibility of communist construction into reality.

But, by themselves, these conditions cannot bring about communism. They can be realised solely by the efforts of the people led by the Communist Party. The realisation of the possibilities of building communism depends on the labour of every member of society. It is this that reveals the decisive role of the subjective factor in the transformation of possibility into reality.

Probability as a Measure of Possibility. The future is never predetermined unambiguously by what there is in the present. An event is accidental if its outcome cannot be accurately predicted and is merely probable. If people take part in the unfolding of events, individual events are still harder to predict, for human actions are never unambiguously predetermined, nor programmed once and for all.

What is a probability? It is the measure of possibility, the degree of the realisation of a given event in given conditions and under given laws.

A hundred per cent probability, or necessity, constitutes a complete authenticity of events. Lack of probability is complete lack of authenticity, or an impossibility. Between these poles lie different degrees of probability, measured by the mathematical theory of probability. Necessity exists not only in the form of an already accomplished possibility, in actuality, but also potentially. There are several possibilities in the historical process. People work for the realisation of various possibilities, but, in the long run, the historical process arrives at an unambiguous historical necessity.

Real and Formal Possibilities. Materialist dialectics considers various types of possibilities and singles out two basic ones—the real and the formal possibility.

The real possibility is the essential tendency in the development of an object. It may take place in given circumstances and under given laws and thus become reality. *An abstract possibility is a non-essential tendency in the development of an object and can turn into reality only*

under highly accidental circumstances. Only formal grounds may be cited in its favour. Hegel described such possibilities very aptly. "It is possible," he said, "that this evening the Moon will fall to the Earth, because the Moon is a body separated from the Earth and may therefore fall down like a stone thrown into the air; it is possible that the Turkish sultan will become the Pope of Rome, because he is a man and can as such be converted to the Christian faith, become a Catholic priest, etc."¹

A formal possibility is formal because it could be realised in the absence of all the other possibilities and because it becomes a possibility only provided it is abstracted from them. The vast majority of formal possibilities never turn into reality. Bourgeois ideologists maintain that under capitalism every poor man can become a millionaire. But this is a formal possibility, for millions of poor men turn into paupers before one of them becomes a millionaire.

Hegel ridiculed idle talk about various possibilities, and observed that the less educated a man is, the less he knows about the definite relations of the objects he examines, the more he is inclined to prattle about all kinds of empty possibilities, as is the case, for example, in the political sphere with the so called beer hall politicians.

An appreciation of the categories of possibility and reality, of the correlation of real and formal possibilities, is not a question of theory only, and has a strong bearing on practice. It is precisely in practice, in politics, that we must know how to spot where the real possibility ends and groundless phantasy begins.

A Marxist, Lenin noted time and again, must take guidance from the facts, from the concrete conditions, for nothing else can give him a correct appreciation of the real possibilities. Lenin demanded that politics be based on real possibilities and on the facts of reality.

The contemporary programme documents concerning the struggle for peace, democracy and socialism adopted by conferences of Communist and Workers' Parties not only define the real possibilities of achieving peace, the victory of democracy and the building of socialism, but also indicate the ways and means of turning these pos-

¹ Hegel, *Werke*, Berlin, 1840, Bd 6, S 286

sibilities into reality. These historical processes are effected by the revolutionary classes, who act on the universal regularities of the transition from capitalism to socialism and on accurate analyses of the conditions prevailing from country to country. This enables them to turn possibilities into reality.

The revolutionary classes and their parties solve strategic and tactical problems in their daily struggle by going from one stage in the development of the revolution to the next, from one stage of social development to the next, higher and more progressive stage. At every stage of the struggle, big and small, it is always necessary to promote the operation of the subjective factor, to further its organising and guiding role, without which it is practically impossible to turn possibility into reality.

The new element in socio-historical development is insuperable, but it does not conquer automatically. To win, it has to be backed by determined struggle of the progressive revolutionary forces against the forces of reaction. *Apart from the possibility of the new defeating the old*, which is conditioned by the operation of objective laws, there is in reality also a possibility of a temporary slackening of the progressive movement, *the possibility of a temporary victory of the old over the new*. These different possibilities reflect the contradictory substance of real life. It is therefore extremely important to size up objectively the various possibilities at every given moment of life and struggle. If one's view of the course of events is incorrect and if the real danger of a possible, if temporary, victory of the reactionary forces is ignored, a favourable opportunity for victory may be missed, giving the reactionary forces a chance to take counter-action.

It will be recalled that on the eve of the October Revolution Lenin pointed most emphatically to 'the real possibility of an immediate victory of the revolution and warned at the same time about the danger of a counter-revolutionary victory. "The situation is critical in the extreme," he wrote. "In fact, it is now absolutely clear that to delay the uprising would be fatal."

"With all my might I urge comrades," he went on, "to realise that everything now hangs by a thread; that we are confronted by problems which are not to be solved by

conferences or congresses (even congresses of Soviets), but exclusively by peoples, by the masses, by the struggle of the armed people. . . .

"We must not wait! We may lose everything!

"History will not forgive revolutionaries for procrastinating when they could be victorious today (and they certainly will be victorious today), while they risk losing much tomorrow, in fact, they risk losing everything."¹

Lenin's prediction came true the victory of the revolution as a result of heroic struggle by the revolutionary masses turned from a possibility into reality.

In the present epoch of the transition from capitalism to socialism on a world scale, the role of the subjective factor in the realisation of the possibilities of revolutionary development is growing all the time. The programme documents of the Communist and Workers' Parties contain the necessary analysis of the real conditions and factors that determine the real possibility of the victory of socialist revolutions the world over.

The world capitalist system is in a state of profound crisis. Capitalism as a system has outlived itself historically. The revolutionary movement of the working class has led to the emergence of the world socialist system. The colonial system is crumbling under the impact of national liberation revolutions and the struggle of the Asian, African and Latin American peoples against imperialism. These are the determinative objective conditions of current historical development, which imply the inevitable and real possibility of socialist victory over capitalism on a world scale in the close future.

But the realisation of this possibility depends entirely on the active, organised revolutionary struggle of all the progressive forces of contemporary history under the leadership of the working class and its Communist Parties. It should be noted that this is not an abstract struggle, it goes on in each country and group of countries with their particular concrete conditions.

One should always bear in mind the possibility and danger of a temporary victory of reaction, which always means new suffering for the masses and may delay the

¹ V. I. Lenin, *Collected Works*, Vol. 26, pp. 231-35

victory of the revolution for a long time. The revolutionary forces must be mobilised in good time to combat this possibility and prevent it from turning into reality.

As we see, the dialectical categories of possibility and reality are of extreme importance for the practical activities of Communist and Workers' Parties.

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We have come to a point where we can draw a general conclusion about the role and importance of materialist dialectics and its fundamental principles, laws and categories.

Dialectics equips us with a scientific method of analysing the complex social processes, enables us to foresee the future and to determine the direction and the appropriate forms of struggle. Therefore, Marxist-Leninist dialectics is a most important method of the revolutionary reconstruction of the world.

Chapter Six

THE MARXIST THEORY OF KNOWLEDGE

The theory of knowledge is a study of the fundamental objective laws governing the process of cognition and of the general methods, ways and means of man's cognition of the surrounding world.

The Marxist-Leninist philosophy was the first to produce a genuinely scientific definition of the essence of knowledge, the character and the regularities of the process of cognition and the ways of obtaining objective truth. The classics of Marxism Leninism proved that *cognition is the reflection in man's mind of the objects and phenomena of the material world, of their properties and the connections and relations existing between them, on the basis of man's social practice.*

In the pre-Marxian period, too, the theory of knowledge attained a fairly high level. The foremost pre-Marxian materialist philosophers generalised man's long experience in cognising the material world and applied themselves to developing a teaching about the basic phases of the cognitive process and to baring the basic forms of both the sensory and logical phases of cognition.

However, the theory of knowledge worked out by the old materialists was historically limited and had quite substantial defects. To begin with, it was metaphysical. What the pre-Marxian materialists were unable to grasp, Lenin noted, was the fact that cognition was not a simple, direct, mirror-like act, but a complex, creative and active process unfolding in the course of the continuous inception and resolution of dialectical contradictions.

A number of important problems pertaining to the theory of knowledge was also raised by the more developed

idealist doctrines. Immanuel Kant probed the means and limits of human knowledge, the conditions for genuine cognition, etc. Hegel delved into the connection between dialectics and the theory of knowledge, the process of cognition, the question of historicism in cognition, etc. But the idealist philosophers naturally resolved these problems from the idealist standpoint, for which reason their solution could not be, and was not, scientific. However, this did not rule out certain correct solutions and rational propositions.

The theory of knowledge holds a very prominent place in the Marxist-Leninist world outlook. It is an inseparable part and a most important aspect of dialectical materialism. Marxist philosophical materialism (the teaching on matter and consciousness) is the theoretical, philosophical foundation of Marxist gnosiology (theory of knowledge), while materialist dialectics, as Lenin demonstrated, is precisely the Marxist theory of knowledge. As we have already seen, the basic laws of dialectics are not only laws of being, but also of thinking, laws that govern man's cognition of material reality.

The scientific theory of knowledge holds prominent place in Marxist-Leninist philosophy because man's cognition of the surrounding world is tremendously important not only for theory; it elucidates, directs and develops man's practical activities, equipping him with powerful means of influencing the material world and social progress, and helping him to control natural forces and social relations.

The history of social life demonstrates irrefutably that conscious control over the development of social processes is impossible, unless it is based on a knowledge of the laws governing the development of human society. Before man apprehended these laws and acquired a knowledge of the motive forces impelling social progress, he had acted blindly and was unable consciously to direct the life of society, unable even to get his bearings properly in the social events that took place around him, and unable, too, to appraise the purport and significance of social processes.

Scientific knowledge of the objective laws of development is extremely important in this respect. It enables us to grasp the substance of current events and, what is more, to determine how these events will develop, that is, to

foresee future events. This, in turn, has a strong bearing on the revolutionary struggle of the progressive social forces of our time.

It was their profound knowledge of the laws of social development and creative generalisation on this basis of the latest social developments that enabled the Communist and Workers' Parties to elucidate many rockbottom questions of Marxist-Leninist science in their programme documents of 1957 and 1960 and, much more, to project many most important practical measures to further the righteous struggle of the working people in the socialist and capitalist countries for peace, for a better future.

The hundred years since the Marxist teaching on the basic laws of social development came into being have confirmed its correctness beyond a shadow of doubt and revealed its immense reconstructive powers. The correctness and great reconstructive powers of Marxism-Leninism were borne out by the materialisation of Lenin's plan for the building of socialism in the U.S.S.R. and a number of European and Asian countries. They were proved, too, by the successes of the revolutionary liberation movement of the African and Latin American peoples, and by the revolutionary flux in the social affairs of nations over the past few decades.

This is why the Marxist-Leninist teaching has evoked fear and confusion among the ideologists of the old, bourgeois world, who, to use Lenin's expression, have long since consigned "unselfish scientific exploration" to oblivion and are trying to shut out the sun of the truth by screening their eyes with their palms. The ideologists of the historically doomed class are in dread of the future and, for this reason, at loggerheads with genuine cognition of the present. They turn their backs on the authentic truth, on knowledge of the essence of the surrounding world, and especially knowledge of the laws of social development. They replace genuine scientific cognition with a variety of Kantian and positivist conceptions of the truth, formalistic and abstract to the extreme, and divorced from science and from practice. All this is being used by the different modern religious philosophical schools, notably neo-Thomism, to preach religious conceptions of the truth and to assert what they style as the "divine" truth.

This is evidence of the deep going crisis pervading the present-day bourgeois conceptions of knowledge. The crisis of the bourgeois ideology is evidenced by the fact that bourgeois ideologists are unable to produce scientifically grounded answers to the vital and pressing questions of reality. They are unable to offer ideas capable of capturing and attracting the masses. They depart farther and farther from the truth, which, for a long time now, has gone against them. Truly scientific cognition goes against their grain, because it offers them no reassuring conclusions. As Lenin said, it is impossible to make any correct evaluations when you are on the brink of disaster.

It is the revolutionary classes and the progressive forces of society that have a stake in genuine scientific knowledge, because they need it to reconstruct reality and win a better future for mankind.

However, to cognise the surrounding world successfully, we must have a correct appreciation of the essence of the cognitive process, grasp the fundamental objective laws of knowledge and work out the most effective methods and means of cognition, which yield the right trend in scientific investigations and help select the shortest road to true knowledge. Albert Einstein, one of the greatest scientists of our time, described the importance of the theory of knowledge for the fruitful development of science very aptly. "Epistemology without contact with science becomes an empty scheme," he said. "Science without epistemology is—insofar as it is thinkable at all—primitive and muddled."¹

The solution of the problems of the theory of knowledge depends primarily on how man understands the relationship between the material world, which he is cognising, and human consciousness. The relation of thinking to being is the basic question of philosophy and the basic question of cognition. *The materialist answer to this fundamental question of philosophy is therefore the cardinal principle of the Marxist theory of knowledge.* The material world, it says, is primary in relation to consciousness and is an object of cognition independent of man.

However, there is yet another side to the fundamental

¹ *Albert Einstein: Philosopher-Scientist*, Evanston, 1939, pp. 183-84

question of philosophy—that of whether or not man is able to apprehend the material world. *The principle that the world is knowable is the second basic principle of the Marxist theory of knowledge.* Dialectical materialism holds that by its nature the world is knowable, that no unknowable things exist, and only things not yet apprehended, which can be cognised in the future as science and social practice continue to develop.

The dialectical approach to the process of cognition is the third basic principle of the Marxist theory of knowledge. As we know, the pre-Marxian materialist theory of knowledge was metaphysical. In contrast, Marxist gnosiology considers cognition as a contradictory, dialectical process governed by the laws of materialist dialectics. This is why materialist dialectics, dialectical logic and the theory of knowledge are considered by Marxist philosophers as an unbreakable organic unity.

The fourth basic principle of the Marxist theory of knowledge, the principle of social practice, derives from the unity of knowledge and material reality. The standpoint of practice, Lenin showed, is the fundamental standpoint of the theory of knowledge. In the process of cognition the following three mutually connected aspects of social practice come into view: 1) practice as the basis of every cognitive process, because all cognition is governed by the requirements of practice and proceeds on the basis of practice; 2) practice as a criterion of the truth, because, in the final analysis, the truth can be verified only by practice; 3) practice as the ultimate goal of cognition, because, in the final analysis, all knowledge is centred on satisfying the needs of practice, on illumining and directing man's practical activity.

§ 1. Cognition as Reflection of the Objective World in Man's Mind

We already know that to obtain a correct understanding and conception of the cognitive process we must proceed from the materialist solution of the fundamental question of philosophy. In describing the essence of the cognitive process from this standpoint, Lenin wrote: "Life gives rise to the brain. Nature is reflected in the human brain. By

checking and applying the correctness of these reflections in his practice and technique, man arrives at objective truth."¹ Consequently, all our knowledge consists of images of the objects and phenomena of the outer world, which is the only source of sensations, thoughts and consciousness as a whole.

Cognition is impossible without the objects of the material world acting on our mind. It is through the influence of external conditions, of real objects, on man's consciousness that images of these objects and phenomena take shape in our minds. In this process the perception and knowledge of real things is the brighter, the more often and the more forcefully these things act on our consciousness. The object we see, which induces the corresponding idea, existed prior to the idea of it arising in our mind.

These primary postulates of the dialectico-materialist theory of knowledge are often perverted by our opponents. The American pragmatist William James, for example, in his effort to disprove the Marxist theory of reflection, contends that our thoughts cannot be considered a reflection of material objects in man's mind, because man's senses can only perceive the surface of things and are unable to reflect their essence. Man's consciousness, he says, cannot contain a copy of, say, the essence of a clock-work. All that our ideas boil down to, he says, is "copies" of the clock face and of other sensorily perceivable properties of clocks, but not of the principle on which clocks work.

This "denial" is wide of the mark. The fact that man cannot sensorily reflect the essence of things does not signify that sense-cognition is inadequate. Dialectical materialism, too, does not believe that we can directly reflect the intrinsic properties, connections and regularities of objects of the material world by means of our sense-organs. But, as we shall see, the essence of objects may be accurately cognised by scientific thinking only if it is based on sensory data. The intrinsic properties, connections and laws are apprehended by us through those of their manifestations, which we perceive sensorily. If the properties of an object did not manifest themselves in any

¹ 3, 2 *Lenin, Collected Works*, Vol. 38, p. 201.

thinking, unconnected with the objects and phenomena of the objective world, is a source of our knowledge alongside the surrounding material world. The objects of the material world sensorily perceived by man are the sole source of all knowledge, but some of them are perceived directly, while others are perceived indirectly, through the action they exercise on other objects and phenomena.

Thinking enables us to study phenomena perceived by us indirectly through the action which they exercise on other phenomena. For example, scientists were unable to see the orbits of the planets round the Sun, because they are not directly perceivable. Ordinary observations reveal only the seemingly chaotic movement and a disorderly peregrination of planets in the firmament. Yet the power of scientific thought enabled man to discover the laws governing the motion of planets. This was knowledge which man obtained through direct observations of the planets and by testing and comparing his theoretical conclusions with the results of his observations.

Even capitalist exploitation, today an obvious phenomenon, was once so well concealed that it was difficult to spot directly. It seemed that the workers at capitalist enterprises were receiving wages which equalled the value of the products they made. It was not until Marx developed the theory of surplus value that the essence of capitalist exploitation came into evidence. Yet it was not only through logical, scientific theoretical thinking that Marx made his discovery; it involved a deep-going investigation of capitalist production, of numerous concrete facts, of directly perceived phenomena.

Being the basis for the cognition of surrounding events, objective reality and the actual activities of men enable us to expose false, unscientific notions and views. Bourgeois ideologists and the diverse revisionists and reformists, for example, have long been beating the drums about the "evolution" or "transformation" of capitalism into socialism without a socialist revolution and without proletarian dictatorship. They allege that this will come about through technical development or through a change in human relations, human psychology and human morals, or through both these factors combined. If we had confined ourselves to purely theoretical debates with the authors

of such theories and did not turn to the facts, to the realities, it would have been difficult for us to demonstrate the fallacy and unscientific nature of their views, because a scholastic dispute divorced from reality could continue endlessly. It is the real facts that repudiate these false notions. There has never yet been a case, and there never will be, that their "transformation" theory materialised. The Swedish Social-Democrats, for example, have been in power for more than 30 years, but all they do is speak about socialism. There is no trace of socialism in Swedish reality.

This confirms once more the idea that the objectively existing material world is the sole source of our knowledge.

We might ask at this point why man is incontestably able to reflect the essence of the surrounding objects correctly in his mind, and why we are so sure there are no unknowable phenomena, but rather phenomena which have not yet been cognised? Many idealists, we know, are still trying to prove that it is impossible to know the surrounding world authentically, and that all our knowledge is unenduring, doubtful, etc.

What bourgeois philosophers are most eager to prove is that social phenomena are unknowable. The West German sociologist Otto Veit claims in his book, *The Flight from Freedom*, that the "student of history always finds in it only particular, individual, ceaseless flux, confusion and chaos". He draws the conclusion that the laws of social development are absolutely unknowable, that they cannot be rationally understood and that there are "mysterious cosmic laws beyond the reach of rational cognition".¹

In repudiating rational cognition, bourgeois ideologists, we see, are compelled to resort to mysterious, supernatural "truths". The neo-Thomists are quite candid about this. The professors of the Catholic Louvain University endeavour to prove in a collection, *Liberty and Truth*, that religious truth is the supreme truth, towering above all other forms of cognition. Religious truths alone, they aver, are able to "penetrate into the secrets of the existence of man and of the Universe".² This is obviously an escape, a departure from all true cognition of the real world.

¹ Veit, *Die Flucht vor der Freiheit*, 1917, S. 35, 200

² *Liberté et Vérité*, Louvain, 1951, pp. 23-24

Other bourgeois philosophers, like some of the pragmatists and positivists, go so far as to banish the theory of knowledge from philosophy on the grounds that every science develops its own methods and means of cognition and therefore needs no general theory of knowledge. John Dewey, the leading American pragmatist, for example, argues that philosophy, far from engaging in a study of the surrounding world, which is the business exclusively of the particular sciences, should not delve into the process of cognition in the form in which it is usually done by philosophers. What is needed, he writes, is for philosophy to stop handling the problems of reality and of cognition in general.¹

However, all the idealists' attempts to extirpate the theory of cognition, to discredit it, to prove authentic knowledge impossible, have been abortive because practice and life show that man is able not only to know the world, but also to transform it on the basis of his knowledge.

Idealist agnostics usually argue that all events occurring around us are completely individual, that there is no order in the surrounding world and that, therefore, the world is unknowable.

If, as the idealists aver, a chaos of accidents really reigned in the material world, if there were no order in it, and no causal and objectively regular connection between objects and phenomena, it would indeed be impossible to cognise it correctly. But the facts show that the idealists could not be more wrong. Although every object of the surrounding world differs from other objects by its specific features, all objects are subject to a definite order, their motion is conditioned by definite causes, by objective regularities, which enables us to learn the essence of the surrounding phenomena by baring these causes and regularities.

"When we consider and reflect upon nature at large or the history of mankind or our own intellectual activity," wrote Frederick Engels, "at first we see the picture of an endless entanglement of relations and reactions, permutations and combinations, in which nothing remains what,

¹ John Dewey, *The Quest for Certainty: A Study of the Relation of Knowledge and Action*, New York, 1929, p. 10

where and as it was, but everything moves, changes, comes into being and passes away."¹

This universal connection and interdependence of all objects and phenomena of the surrounding world, their ceaseless motion, their development, are neither chaotic nor disorderly, and do not proceed by the will of a divine, supernatural power, but are conditioned by a definite necessity, by a causal dependence and strict objective regularity.

However, the necessary, law-governed, causal connections do not lie on the surface of phenomena. They are within the phenomena, reflecting deep going processes, and are not, therefore, within the reach of direct perception. Often, a vast amount of effort by a large number of scientists over many successive years is necessary to discover these connections. It is the purpose of scientific cognition to reveal this necessity, to cognise the causes behind the inception of phenomena, to discover the laws governing their development, and to gain a knowledge of their intrinsic essence.

§ 2. Practice—the Basis of the Process of Cognition

A proper understanding of the essence of human practice, and of its place and role in the process of cognition, is one of the rockbottom principles of the theory of knowledge. The revolutionary upheaval wrought by the Marxist-Leninist classics in the province of epistemology lies primarily in the fact that they revealed for the first time in the history of philosophy the determinative role played by socio-historical practice in the process of cognition. They proved that the social practical activities of men are a most important point of departure in determining the essence of the objects of the material world and, at once, the only criterion of the truth of all our knowledge and the ultimate goal of cognition.

"We see," wrote Marx, "that the solution of theoretical opposites is possible *only through practice*, only through man's practical energies, and that for this reason their

¹ Engels, *Anti-Dühring*, Moscow, 1950, p. 33

solution is by no means the task of cognition alone, but an *actual* and vital task which *philosophy* could not solve because its approach was *purely* theoretical "1

There have been attempts in pre-Marxian philosophy to establish the role and place of practice in the process of cognition. But the matter was not scientifically resolved at the time, because all the previous philosophers were unable to apprehend practice properly and scientifically as the social and production activity of man. The idealists reduced practice to a form of man's spiritual activity, and the metaphysical materialists considered practice chiefly as a laboratory experiment, an experimental observation. It was the Marxist-Leninist classics who, for the first time in history, produced on the basis of the proletarian world outlook a genuinely scientific conception of the essence and significance of the social practice

By practice we mean the entire multifarious and multi-sided material activity of men, conditioned by the given level of social development and aimed at the transformation of nature and social life. Practice may be a natural science experiment, a scientific or technical discovery, class struggle, revolution, war, etc. But in all this multiplicity of man's social practice it is man's activity in the sphere of material production that plays the most important and determinative role. It is in the process of his practice in material production that man cognises the objects of the objective reality, its regularities and the relation of man to nature, and of man to man. Man emerged from the animal world the moment he began to produce means of subsistence, to create implements of production. As distinct from animals, man perceives the world not only in the process of his biological adaptation to his environment, but chiefly in the process of his practical action upon his environment.

History shows that the great scientific discoveries, like scientific cognition in general, were impelled by man's continuously developing practice and geared to man's vital practical requirements. Mathematics, for example, originated because man had to measure areas, angles and volumes. The development of navigation gave birth to astronomy. The social sciences appeared when man set

1 Marx/Engels *Gesamtausgabe*, Abt. 1, Bd. 3, S. 121.

out to remodel the life of society. Agrobiology was the upshot of man's need to raise the productivity of agriculture. And so on.

The history of scientific thought disproves the idealist thesis that science stems from, and is directed by, unknown "divine forces", or man's curiosity and his inexplicable thirst for knowledge. Bourgeois science nourishes the widespread false and unscientific belief that science owes its success solely to the personal abilities of individual scientists, to the accidental birth of geniuses, and not to the requirements of life and social practice.

Yet the inception of new sciences, of new large branches of knowledge, and their rapid development in our time, are evidence of the fact that the needs of social practice exercise a decisive influence on the development of science. Take nuclear physics, a new, comparatively recent science. It has developed considerably in a fairly short time, and has been enriched by many scientific discoveries. This is due chiefly to the fact that nuclear physics is of vast practical importance, because it is capable of working a revolution in power engineering and thereby of considerably easing man's labour, offering him new possibilities of conquering nature to man's benefit.

There is cybernetics, a still younger science, which is also developing at a very high rate, and not only because of the great theoretical interest it evokes, but above all because it is helping to solve many complex problems in many fields.

Being the basis and the cause of the appearance of new sciences, new branches of knowledge, man's practical requirements are also impelling the development, deepening and improvement of already available knowledge.

The bulk of the scientific discoveries were made after man's social practice had developed sufficiently to require the respective discoveries "If, as you say, technique largely depends on the state of science," Engels wrote to Starkenburg, "science depends far more still on the *state* and the *requirements* of technique. If society has a technical need, that helps science forward more than ten universities."¹

The scientific endeavours of Ivan Michurin, the Russian

¹ Marx and Engels, *Selected Works*, Vol II, Moscow, 1962, p. 504.

biologist, are a striking example of the immense role played by practice in advancing our knowledge of the surrounding world. Michurin made all his discoveries in biology, and produced all his new strains and species of plants chiefly in the process of long and complex experiments and a proper combination of scientific knowledge with practical activity. The fruitful work of the well known American horticulturist, Luther Burbank, who bred many new strains and species of plants, may be viewed from the same angle.

Man's scientific experiments and his socio-historical practice reveal aspects of reality which are imperceptible in the process of passive contemplation, invisible and unknown in ordinary conditions. They are perceived only through man's practical influence on the course and results of his investigations. The study of light and electromagnetic phenomena, for example, would have been extremely difficult, perhaps impossible, if man had not had the practical means of influencing nature. The phenomena and properties of things of the objective world which cannot be directly perceived, are apprehended through the practical action of one body or group of bodies on another body or group of bodies. Physics, chemistry, biology and many other sciences would never have achieved their present results without practical action upon nature.

The scientific investigations made by natural scientists would be inconceivable without appropriate practical acts, such as experiments, voyages, geological and other expeditions, explorations of the upper strata of the atmosphere, Arctic and Antarctic research, and the launching of artificial earth satellites, space rockets, automatic stations, manned space flights, etc. All these and many other of the scientists' practical acts are part and parcel of scientific cognition, cannot be separated from it, and exert a decisive influence on the course and outcome of cognition.

"In order to understand," Lenin notes, "it is necessary empirically to begin understanding, study, rise from empiricism to the universal."¹

Practice enables man not only to control things, to learn them, but also to create things non-existent in nature (e.g., plastics, alloys, new strains of animals and plants, etc.). The

¹ V. I. Lenin, *Collected Works*, Vol 38, p 205.

sum total of man's socio historical practice is the point of departure in cognition and, at once, the determinative, directional and modulating factor in the process of cognition, the process of logical thought included.

The immense importance of practice as the point of departure and the basis of cognition may be illustrated by many examples from social life. The scientific theory of the new, communist society, developed by Marx and Engels, was the result of a most profound scientific analysis of the history of human society, of a critical evaluation of all previous knowledge, a generalisation of the gigantic store of experience accumulated by the world revolutionary movement and, above all, the practical revolutionary struggle of the proletariat. Marx and Engels would not have been able to equip the world proletariat with their new, genuinely scientific theory if they had not made their analysis and discovered the objective laws of social development.

In the new historical epoch, Lenin and his followers tirelessly studied and generalised the practice of the working people's revolutionary struggle in all countries, the latest experience of social development.

Lenin discovered the law of the uneven development of capitalism and developed the theory of the victory of socialism first in one or a few countries, precisely on the strength of having generalised the latest experience in the development of capitalism in its final stage, when capitalist contradictions had become acute, when the wrath of the masses against capitalism had risen to a high pitch and the revolutionary forces in the capitalist countries were growing rapidly.

The new Programme of the C.P.S.U. is a striking example of the theory of scientific communism creatively advanced through profound generalisation of new social practice.

The Marxist-Leninist classics drew the general outlines of the communist system and proved its emergence and development to be an objective law. What they could not do was to foresee in every detail the ways and means of building the new society, because the practice of that time did not yet provide the pertinent data. Besides, this was unnecessary, because no practical questions concerning the

construction of the higher phase of communism had yet cropped up.

At present, the Soviet Union has completed the building of the first phase of communism. Socialism has won completely and finally. The country has embarked on the full scale building of communism, the higher phase. At this stage, questions concerning the ways of building communism have acquired practical significance, and their solution has now become possible because the socialist countries, particularly the Soviet Union, have accumulated a wealth of experience while building socialist society.

After studying this experience and generalising the practice of socialist construction and the first steps in building communism, the C.P.S.U. mapped concrete ways for the transition to communism and framed a whole programme for the creation of the new social system.

Creative generalisation, based on the fundamental principles of Marxism-Leninism, of the latest social developments in the socialist and capitalist countries and of the experience of the world revolutionary movement is essential in working out the strategic and current tasks of the working class in different countries, and for the creative development of Marxist-Leninist science itself. It was the scientific generalisation of this experience that enabled the Communist and Workers' Parties to define at their Moscow meetings in 1957 and 1960 the chief trends of the revolutionary struggle of the working class and of all working people and formulate the historical tasks of the struggle for peace, national independence, democracy, and socialism, and to creatively advance Marxism-Leninism, to enrich it with new conclusions about the variety of forms of transition from capitalism to socialism in the present epoch, about the peaceful coexistence of countries with different social systems, the possibility of preventing wars in modern times, the tasks of the oppressed peoples in the national liberation struggle, the forms of government in countries that have flung off the colonial yoke, etc.

This bears out Lenin's sound appraisal of the essence of Marxism as a science in *State and Revolution*. "The teaching of Marx," he wrote, "is a summing up of experience illuminated by a profound philosophical view of the world and a prodigious knowledge of history."

However, the decisive role of social practice in the emergence and development of science, its determinative influence on the course of scientific cognition, must not be understood canonically and in over-simple terms. It is wrong to think that every science, at all stages of its development, does nothing but fulfil the orders of practice. In the process of its development, every science works out abstractions, or theoretical propositions, which, within certain limits, are able to develop on their own, relatively independent from practice. When developing a theory, scientists in the initial stage of their investigation are frequently blind to its bearing on man's practical activity.

Mathematics offers striking examples of this. Some theoretical propositions, abstract notions and categories in mathematics have been developing "purely" logically for decades, even centuries, betraying not the least trace of their ability to serve man's practical activity. The theory of conical sections, for example, dates back more than 2,000 years to Ancient Greece, while its use in practice is relatively recent. The same is true of Nikolai Lobachevsky's discovery. The first non-Euclidian geometry he developed in the 1820s (duplicated somewhat later by the Hungarian mathematician János Bolyai) had no practical use for dozens of years. It was an austere, logically non-conflicting system, and for a long time had purely mathematical importance. It was not until the early 20th century, about 80 years later, that its ideas were first applied in the theory of relativity which, as we know, has completely upset man's previous notions about space and time and constitutes one of the theoretical pillars of contemporary nuclear physics. Similarly, the mathematical machinery of quite a few departments of modern physics was elaborated many years before it was first put to use.

This does not mean that the above theories were totally unrelated to practice. Firstly, they developed upon theoretical propositions that sprang from a practical groundwork and were verified by practice, and, secondly, they ultimately and inevitably found direct or indirect practical uses.

Speaking of the role of practice in the process of cognition we primarily imply men's *socio-historical* activity. This does not go to say that the individual experience of the researcher should be ignored or underestimated. Man's

individual experience must neither be divorced from, nor opposed to social practice. The two are dialectically connected, because social practice is carried on by people either collectively or individually.

The interconnection and interdependence of social and individual practice is highlighted by the fact that, on the one hand, individual practice cannot develop successfully unless based on the socio-historical practice accumulated by mankind down the centuries, and, on the other, that social practice itself draws on the practical and theoretical activities of individuals (scientists, social and political leaders, factory workers, etc.) and individual groups.

A proper appreciation of the relationship between socio-historical and individual practice is essential for political leaders.

A political leader is also, to a certain extent, an explorer or researcher. He studies life and the events around him, leaning not only upon the past experience recorded in definite theoretical conclusions. He also continuously accumulates his own, individual experience, which enables him to assess current developments more correctly, to draw scientifically grounded conclusions, and to define the vital tasks of further political struggle. But this individual experience must never be isolated or detached from the universal.

All this shows that man's social activity, treated as a diversity of aspects and manifestations, is the *point of departure and the basis of the whole, complex process of cognition*.

The cognitive process, which unfolds on the basis of practice, does not run its course in disorder. On the contrary, it is governed by definite regularities, goes through basic stages and certain phases of development. The experience of man's cognitive activity reveals that every process of cognition consists of *two main phases*—the sensory phase or the phase of direct and living contemplation, and the logical phase or the phase of abstract scientific thinking crowned by verification of the obtained truths through practice.

Below, we shall examine each of these phases of cognition at greater length, bearing in mind the decisive role of practice as the basis of the cognitive process as a whole.

§ 3. Sense-Reflection of Reality and Its Role in the Cognitive Process

Nobody in his right mind will ever question the fact that, in the final analysis, cognition takes its start from direct, living contemplation, from observing the things and phenomena of the material world, that is, from the direct interaction of man through his sense-organs with the objects under study. In order to apprehend *some unknown object*, we must first look at it, determine its colour and form, test its firmness, taste it if possible, establish its smell, or its sound, etc. The empirical data thus procured serve as the basis for further mental processing. All thinking is based on data man obtains by direct or indirect contact with material objects. Lenin wrote "From living perception to abstract thought, and *from this to practice*—such is the dialectical path of the cognition of *truth*, of the cognition of objective reality."¹

Yet idealists persist to this day that man's true cognition of the surrounding world proceeds through "pure" theoretical thinking devoid of sense perceptions, rather than through his direct contact with the objects and phenomena under study. The more thoroughly a scientist walls himself off from the outer world, the idealists maintain, the better he protects himself from the influence of his environment, the fewer the hindrances he meets in his research and the more successfully he furthers the cognitive process. Some idealist philosophers peddle this unscientific view quite candidly, while others attempt to camouflage it.

Bertrand Russell, for example, does not venture to maintain this discredited idealist view of the source of human knowledge openly, and strives to bring it forward cautiously, subtly sowing doubt in his readers as to the possibility of knowing the material world through direct contact with things. The relation of a percept to the physical object which is supposed to be perceived, he writes, is vague, approximate, and somewhat indefinite. There is no precise sense in which we can be said to perceive physical objects.²

Russell believes that we cannot judge physical objects

¹ V. I. Lenin, *Collected Works*, Vol 38, p. 171

² B. Russell, *Human Knowledge Its Scope and Limits*, London, 1918, p. 240.

by our sensations because the latter never coincide with them, and differ from them considerably. In his opinion we do not apprehend the objects of the material world directly, and merely know the effects they have on us. "Physicists and astronomers," he writes, "base their assertions as to what goes on in the outer world upon the evidence of the senses, especially the sense of sight. But not a single one of the occurrences that we are told take place in the physical world is a sensation. How, then, can sensations confirm or confute a physical theory?"¹ Elsewhere, Russell declares that our immediate visual data, owing to their subjectivity, are almost certainly not what takes place in the physical objects that we are said to see.²

This frankly agnostic point of view is also held by the semantic idealists. They, too, mistrust our sense-organs, our sensations, and contend like Russell that all our knowledge is unauthentic and possesses no more than a varying degree of probability. This, they claim, is due to the fact that we cannot, allegedly, trust our sense organs completely. From their point of view, different people perceive the world differently and it is impossible to say what it is really like. This sort of purely declarative view is highly typical of the modern agnostics.

The pragmatists, too, who style themselves as exponents of empirical philosophy, deny the role of sense-cognition. John Dewey, for example, who, in effect, preaches agnosticism, contends that sensation and thought cannot yield authentic information about the outer world. What is more, he thinks that sensation does not in the least belong in the sphere of knowing. Sensations are not "gateways to knowing", he says, but merely "stimuli to action". "Sensations are not parts of any knowledge, good or bad, superior or inferior, imperfect or complete. They are rather provocations, incitements, challenges to an act of inquiry which is to terminate in knowledge. They are not ways of knowing things inferior in value to reflective ways, to the ways that require thought and inference, because they are not ways of knowing at all."³

¹ Ibid, p. 62.

² Ibid, p. 43.

³ J. Dewey, *Reconstruction in Philosophy*, Boston, 1919, pp. 89-90.

The idealist view that what man knows are not objects of the material world but something of no relation to them, is also being disseminated by the so-called instrumental idealists. It will be recalled that various instruments are being put to use more and more in modern physical research, particularly in quantum mechanics. At present, the importance of instruments in scientific research is so great that some physicists are being deluded into thinking that by means of his instruments the scientist investigates not objects of the material world and their connections and regularities, but such phenomena and regularities which man himself creates with his modern instruments.

Werner Heisenberg, for example, one of the outstanding physicists of our time, believes, being an exponent of "instrumental" idealism, that classical physics studies objectively occurring processes, while quantum mechanics deals with processes that *flare up* at the moment of observation. He wrote in his book, *Die Entwicklung der Quantenmechanik*: the scheme of quantum mechanics reveals that quantum mechanics is not concerned with the objective determination of space-and-time events.¹ He adds that the uncertainty of microphenomena is allegedly created by the measuring instruments, and arrives at the conclusion that the object of observation, the measuring instrument and the observer must be joined into one quantum-mechanical system, which, he believes, will eliminate the contradictions of the quantum theory.² As we see, Heisenberg ranges himself with the "physical" idealists and endeavours to dissolve the object of cognition in man's subjective activity; he sets out to prove that the objects of the material world do not exist objectively as objects of cognition, and that people create them by means of instruments.

This point of view is unscientific. Certainly, we cannot study microobjects unless we use the appropriate modern instruments or devices, because we cannot see them with our bare eyes. It is only natural that our instruments should affect the objects of cognition. But does this legit-

¹ W. Heisenberg, "The Development of Quantum Mechanics" in the collection *Modern Quantum Mechanics*, 1934, p. 27 (in Russian).

² *Op. cit.*, p. 30. In the last few years, Heisenberg has largely abandoned these views and has expressed correct ideas on a number of philosophical questions

imately mean that microobjects do not exist objectively and are created by an instrument or by man? It stands to reason that we must take the influence of instruments on these objects into account as accurately as possible. But microobjects, like all other material objects and phenomena, exist objectively, independently of man's consciousness. They develop according to the objective laws implicit in the material world. If microphenomena and the regularities of their development were created by men and their instruments, different instruments would enable us to "create" different laws, different microphenomena. It is precisely because they exist objectively that they are reflected in our minds in all cases as the same laws, regardless of what instruments we use to study them.

Niels Bohr, one of the most prominent physicists of our time, is firmly opposed to the subjectivist view of nature and microphenomena, and this despite all his philosophical vacillation. Bohr notes the qualitative distinctions between microphenomena and the macroprocesses in nature, and says that in none of the cases is the expansion of our concepts predicated by the observing subject. This, he adds, is decisive. His testimony speaks quite conclusively against the subjective approach to atomic and nuclear phenomena, which are profoundly objective in nature.

Everybody knows perfectly well from his own experience how important the sense organs are in apprehending the surrounding world. To convince ourselves in the truth of this or that proposition, this or that fact or event, we must either perceive it directly with the help of our sense-organs, or read or hear about it in the accounts of witnesses. We learn about knowledge long since acquired by mankind through the written or spoken word, which we take in by means of our eyesight or hearing; it may be added that man obtained this knowledge originally through his immediate contacts with objective reality.

Sight organs, for example, enable people to perceive the world in all its picturesque, endlessly rich multiplicity, to feel the motion of material bodies, to grasp its direction, and the like. By means of our eyesight we obtain the fullest possible sensory picture of the material world, supplementing and repeating the perceptions obtained by other sense-organs. Eyesight, the distinguished Russian physiologist

Ivan Sechenov said, plays the leading role in immediate sense cognition.

Each of the sense-organs fulfils definite functions, and all of them combined enable us to gain a knowledge of the surrounding world. In his notes on Feuerbach's lectures, Lenin underscored the German materialist's notion that man has enough sense-organs to apprehend the material world objectively and completely. If man were to have more sense-organs than he does, Feuerbach said, he would not cognise more than he is able to cognise now, because he has "just as many senses as are necessary for him to conceive the world in its totality, in its entirety".¹

The tremendous role of direct, living contemplation is best seen in the cognition of social phenomena. In natural science, particularly those of its fields which are closely connected with mathematics, where scientific notions, laws and other theoretical propositions are highly abstract, their connection with material reality often appears very remote and indirect. In the study of social phenomena, however, this relation is usually clearer and more direct, although all science naturally uses the method of theoretical abstraction. In political economy, for example, many theoretical propositions are based on a direct study of production and of the economic relations of nations and states, and their truth is also verified by a direct study of practice, of the existing economic relations and processes. Historical science, too, bases its generalisations and conclusions on the immediate study of the life of peoples, of social processes occurring in the different countries, or on the investigation of material or written sources and monuments of the past.

Even so "abstract" a science as philosophy, which deals with the most general laws of reality, is directly connected with the objective world, because it formulates its laws not only by theoretical reflection, but also by a direct approach to reality or by generalising the scientific material obtained by the specific sciences in their study of reality.

All this speaks clearly about the very important role of the sensory phase of cognition. However, sense-cognition is not an amorphous process. It assumes definite, concrete forms.

¹ L. Feuerbach, *Sämtliche Werke*, Leipzig, 1851, Band VIII, S. 163.

Sense-cognition assumes the form of *sensations, perceptions and ideas*.

By acting on man's sense organs, objects of the outer world induce different sensations (of colour, form, firmness, smell, taste, etc.). *A sensation is the first sensory image of the separate properties of objects and phenomena.* Sensations, said Lenin, are the result of the action upon our sense-organs of objects existing objectively outside us. Man may have contact with the outer world and interact with the surrounding objects and phenomena solely by means of sensations, through his sense-organs.

Subjective idealism recognises the role of sensations in cognition, but perverts the nature of sensations as such. Ernst Mach, for example, treated sensations as determinative and primary in relation to the whole existing world and maintained that "it is not bodies which excite sensations, but *complexes of elements* (complexes of sensations) which form bodies".¹ For this reason, he added, knowledge is not really knowledge of the world, but knowledge of one's own sensations. The modern positivists hold a similar view. They contend that the world is a totality of either "sense-data" or of "logical elements".

The subjective idealists recognise the existence of sensations as the sole reality and repudiate the basic materialist premise that sensations are reflections in our consciousness of the properties and qualities of objectively existing objects of the material world.

Dialectical materialism rejects the idealistic approach to sensations. It holds that no sensations can arise without matter, without the objects of reality. Nothing but matter produces sensations by acting on our sense-organs. Man owes it to his sensations that he is able to apprehend the various properties, qualities, and features of objects. The direct connection between the mind and the outer world is maintained through the medium of sensations in the process of human practice.

On the other hand, dialectical materialism is opposed to the idealist standpoint that the character of a sensation (e.g., a sound, colour, smell, etc.) depends exclusively on

¹ E. Mach, *Die Analyse der Empfindungen und das Verhältniss des Physischen zum Psychischen*, Jena, 1906, S. 23

man's physiological organisation, as maintained by the so called physiological idealists, who refuse flatly to recognise the objective existence of individual qualities of objects, their colour, smell, form, etc. These qualities of objects, the idealists argue, exist insofar as we perceive them. As soon as we stop perceiving an object, all its qualities disappear.

All these idealist contentions evidence an arbitrary negation of the very existence of the objects of the material world, which every person continuously sees in his everyday life and practice. Practice provides continuous evidence that our sensations come into being in the process of our interaction with material objects, and constitute a reflection of their properties and features.

It should be borne in mind, however, that sensations reflect individual properties of objects and phenomena. As for the integral image of an object, it is reflected in man's mind through *perception*, a higher form of cognition.

Take a plant. We perceive its form, colour and size by means of our eyesight. By means of our hands we apprehend the surface of the stem and the leaves, and their form. By means of our olfactory organs we determine the smell of plants, etc. But all these sensations are experienced by us not in isolation from each other, but as an integral whole, as properties of one object.

Perception is based on sensations. But perception is not a mechanical sum of sensations. *Perception is an integrated sense image of objects, embracing the aggregate of their properties, qualities and aspects reflected by sensations.* When we walk the street of a big city, for example, we at once receive a vast number of visual, olfactory, auricular, cutaneous and other sensations. Out of this confusion of sensations our mind forms a perception of city houses, paved streets, pavements, moving people, automobiles and tram-cars. It is not just a variety of sounds that reaches our hearing, but the noise made by a tram car, people's speech, the honking of a car, and the like.

How does man get his bearings in the multiplicity of sensations and perceptions, often received simultaneously? What helps him to perceive the surrounding world correctly?

The fact is that perceptions are based not only on the sensations induced at any given moment by this or that object or phenomenon, but also on the aggregate of man's past experience, of past practical activity. Past experience helps him to recognise the perceived objects, to find his way among the welter of different sensations and perceptions received from the surrounding reality, to reason them out, and to understand the surrounding phenomena and processes. We infallibly recognise a piano by the sound reaching us from a neighbouring house, because we have seen a piano many times before and heard the sounds it makes. Looking at an object from even a considerable distance, we distinctly recognise the relief of its surface, guess its approximate dimensions, gauge the distance from it, and the like, thanks to past experience. It is only thanks to years of practice from an early age, thanks to repeated combinations of visual perceptions of the size of objects from different distances and the touch sensations yielded by these objects, that people learn to perceive correctly the size of objects located at different distances from them.

Consequently, the decisive role of practice in cognition is obvious and quite conclusive in this context as well.

Ideas are the third form of the sensory reflection of the material world in man's mind.

An idea is an integral sense-image of objects and phenomena perceived earlier, which are not directly perceived by the subject at the given moment. It is a reproduction in man's mind of objects which acted on our sense-organs in the past, which were perceived directly or indirectly, and were stored away in our memory. For example, we readily reproduce in our mind the images of closely related people, and of familiar objects, events and phenomena perceived earlier.

Ideas about objects and events we have never before perceived directly, may also arise in our mind. For example, every citizen of the Soviet Union, though he may never have been to Moscow, has an idea of the Moscow Kremlin, the Kremlin towers, etc. As we study the history of a country we obtain an idea about its historic personalities, social events, the facts of history, and the like, although we may never have directly perceived any or most of them. Ideas arise on the basis of material obtained

in looking at pictures, photographs, or films reproducing the objects, phenomena or events concerned, or as a result of reading or hearing accounts about them.

What is in principle a similar process occurs when we form *ideas of the future*, which are also based on a foundation of earlier impressions amalgamated into a new image. Since they arise on the basis of sensations and perceptions and are sensory and visual images of objects, ideas are part of the first, initial phase of cognition—the phase of direct, living contemplation. However, this does not go to say that ideas are no more than pale, diluted replicas of past perceptions. They contain an element of generalisation, which makes them a higher form of sense-reflection of the material world in man's mind than sensations and perceptions.

An idea is not simply a sensory and visual image of the objects of the material world. It is not a mechanical imprint of them in man's brain. It is the result of the whole wealth of past perceptory experiences. For this reason, ideas may be described as transitional to the second phase of the cognitive process—the phase of abstract thinking. They are used and associated by our thinking with other elements of cognition.

Thus, sensations, perceptions and ideas comprise the first and necessary phase of cognition, the phase of direct, living contemplation. All cognition begins with the direct interaction of man and the objects of the outer world in the process of social practice. Sense-cognition is an important stage in the process of cognition, paving the way to higher forms of knowledge.

§ 4. Logical Cognition and Its Forms

As we have seen, the cognitive process begins with sensation, with direct observation. But sense-cognition alone cannot reveal the intrinsic essence of objects, the regularities of processes and phenomena of the objective world. "The empiricism of observation alone," wrote Engels, "can never adequately prove necessity.... This is so very correct that it does not follow from the continual rising of the sun in the morning that it will rise

again tomorrow. And, in fact, we know now that the time will come when one morning the sun *will not rise*.¹

Man cannot be content with knowing just the external signs of phenomena. He strives to penetrate into the essence of the existing world, to gain a deeper knowledge of the regularities governing the development of nature, society, and thought, and this is absolutely impossible without theoretical, abstract scientific thinking.

The material world, the objective reality, its objects and phenomena, are primary in relation to our thinking. They determine its content. But the objects of the objective world cannot by themselves equip us with scientific data. Facts are of immense importance. To use Ivan Pavlov's expression, they are the lifeblood of the scientist. But, both in scientific and in practical endeavours, it is insufficient to accumulate facts; the facts have to be generalised, and the appropriate conclusions have to be drawn from them.

Modern science and technology, it is true, have equipped our sense-organs with instruments that enable us to extend more and more the field of sense-cognition. The modern electronic microscope, for example, enables people to see the agents of some diseases, large molecules, and other objects they could not directly perceive before. The spectroscope enables man to analyse the chemical content of celestial bodies at colossal distances, etc.

However, not all phenomena of the material world may be sensorily perceived with the aid of instruments, no matter how perfect these are. In studying economic forms, Marx pointed out, we can use neither a microscope, nor chemical reagents. These have to be replaced by the power of abstraction, the power of human reason. Human reason generalises through concepts and other logical forms the multiplicity of the facts of the surrounding reality, lays bare the intrinsic essence of objects and phenomena, and enables man thereby to raise the curtain on the future, to foretell the course of events and map out his future practical activity.

At the same time, theoretical cognition, i.e., cognition through logical forms and categories, cannot be successful,

¹ Engels, *Dialectics of Nature*, Moscow, 1964, p. 233.

unless it is based on the real facts, unless it draws on the material of sense-cognition, on the data of experience and practical observation.

The process of abstract, logical thinking takes place in three basic forms: concepts, judgements, and deductions. *A concept is a form of thought in which are reflected the most general, substantial and necessary properties and features of objects and processes of the material world.* The concept is the first, initial and basic form of cognition.

No thinking can go on without concepts. When we say, "communism is the most progressive social system", the knowledge expressed in this thought is based primarily on such concepts as "communism", "social system", "progressive social system", etc., each of which is a concentration of the knowledge man has gathered about the phenomena reflected in them.

A concept resembles an idea, because it, too, reflects the features and properties of the objects of the material world. But in contrast to ideas, concepts reflect only the most important, determinative, essential properties of objects. Ideas are tainted by a large degree of subjectivity, or individuality. They reflect the aggregate of a wide range of properties inherent in objects, regardless of whether they are essential or non essential. Since every object has a countless number of properties, aspects and features, and since different people may reflect different properties of these objects in their ideas, the ideas of different people about one and the same object virtually never coincide in full, and each possesses certain unique features. Scientific concepts, on the other hand, reflect only the essential and determinative properties of objects, and the essential properties of the same objects in the same conditions are common for all people and do not depend on their subjective perceptions.

This shows that a concept is a higher form of cognition than an idea, because a concept reflects the essence, the nature of material objects and phenomena.

The process of scientific cognition inevitably and necessarily contains a whole series of scientific concepts, for no truly authentic and profound knowledge is possible without them. This applies equally to social, natural and mathematical sciences.

The programme documents of the Meetings of the Communist and Workers' Parties in 1957 and 1960 contain models of definitions of scientific concepts. They contain a creative generalisation, on a Marxist-Leninist basis, of the latest experience of social development, producing an exhaustive definition of the contemporary historical epoch and a scientific definition of such concepts as "socialist camp", "non-capitalist path of development", "state of national democracy", etc. In elucidating the content of the concept of, say, "socialist camp", the 1960 Statement says: "The socialist camp is a social, economic and political community of free and sovereign peoples united by the close bonds of international socialist solidarity, by common interests and objectives, and following the path of socialism and communism". This definition illumines the chief, essential properties of this new social phenomenon conceived by contemporary social life.

Concepts do not spring up overnight. Their emergence is a long process of cognition, frequently involving several generations of people. In the course of this process, people learn to know more deeply and fully the objects reflected in concepts, and single out the most common features of all these objects—the necessary, essential and regular features, without which they cease to be what they are. At the same time, we witness in the process of the formation of concepts an abstraction from all external, accidental and non-essential properties.

For example, in order to obtain a scientific concept of social classes, people had had to study social life in the course of many centuries. It will be recalled that people had known about the existence of classes and of class struggle for a very long time. Plato, the ancient Greek idealist philosopher, pointed out that there existed, as it were, two states within each state, one comprised of the rich and the other of the poor, and that they lived together, though conspiring constantly against each other. Many bourgeois sociologists, too, noted the division of society into classes, and the struggle of these classes. But none of the thinkers of the past was able to produce a scientific definition of classes. This was done by the

classics of Marxism-Leninism on the basis of a profound analysis of the history of human society, particularly of the capitalist epoch. Drawing on the theoretical wealth created by Marx and Engels in their studies of social life, and in particular on the Marxist teaching about classes and class struggle, and developing this teaching creatively, Lenin produced a truly scientific definition of the concept of a social class, bringing out the chief, fundamental and essential elements common to all classes, without which no class could exist. It will be recalled that Lenin's definition of a class lists a number of essential properties, of which the relation to means of production is the foremost and determinative.

Abstraction from the external, non-essential properties of an object and reflection of the intrinsic, essential properties and features constitute the general process in which all scientific concepts take shape.

The real process of thinking is not a simple sum or simple listing of separate, isolated concepts. It is a definite system, an association of different concepts and thoughts, which is neither subjective nor arbitrary, but governed by objective laws. This association of concepts takes the form primarily of a judgement.

A judgement is that form of thinking which constitutes a definite association of concepts reflecting the connections and relations of the objects of the material world.

The grammatical form in which judgements are expressed is the sentence, and, just as all other forms of thought, a judgement cannot exist without language, and cannot even arise, let alone exist, outside the sentence, irrespective of whether it is expressed orally or in writing.

Judgement plays a big role in cognition, because all knowledge about the objective world obtained by men is expressed in the form of judgements. Our initial guesses about the causes that impelled the appearance and the properties of the objects of the material world take the shape of judgements. We use judgements to formulate hypotheses, that is, preliminary conclusions about the essence of the phenomena we are studying. It is in the form of judgements, too, that we record the results of man's cognitive activity, his scientific deductions, the discovered laws of nature, of social life, and of cognition.

itself. It is by means of judgements expressed in sentences that people convey the results of their cognitive activity—their scientific discoveries and deductions—to their contemporaries and to all future generations.

Judgement as a form of thinking is most intimately associated with concept. This association is evident, firstly, in the fact that every judgement infallibly contains concepts and represents a definite system of concepts. For example, the judgement that "no planet can illumine itself with its own light" is senseless to a person who has no conception of a planet, or of an object lighting itself with its own light, or of both at once. Secondly, no concept can be formed without the help of judgements. To form a concept means to express the essential, chief, necessary properties of the object concerned, and this act immediately assumes the form of a judgement. For example, in defining imperialism we point to its most important properties and express this concept in the form of an appropriate judgement, to wit, "imperialism is capitalism at that stage of development at which the dominance of monopolies and finance capital is established; in which the export of capital has acquired pronounced importance; in which the division of the world among the international trusts has begun, in which the division of all territories of the globe among the biggest capitalist powers has been completed."¹

This profoundly scientific definition of imperialism, given by Lenin, is valid to this day precisely because it expresses, in the form of a judgement, the fundamental and determinative properties of the object concerned. It is quite natural that this definition is now gaining new content, being enriched and made more specific by the new facts arising in the development of contemporary capitalism. But its essence is valid all the same, for it expresses the essence of the object itself, the essence of imperialism with all its distinctive properties.

Deduction is the third form of logical cognition. A deduction is that mental act in which a new judgement about the things and phenomena of the objective world is inferred or deduced from authentic judgements. At the

¹ V. I. Lenin, *Collected Works*, Vol 22, pp 266-67.

same time, a deduction as a form of thinking is a definite system and association of different judgements.

The fact is that all knowledge acquired by man may be either direct or indirect. We call knowledge direct if we are convinced of its truth by direct, living contemplation through perceptions obtained from the objects and phenomena under study.

But there is also such knowledge, the truth of which cannot be verified through direct, living contemplation, that is, by means of the sense organs, however highly developed science and social practice may be. No matter how thoroughly we examine the Earth or the Sun, for example, we will never thereby prove the truth of the judgement that "the Earth revolves round the Sun", because we cannot see it happen directly. To prove the truth of this judgement we have to fall back on other authentic judgements. Direct, living contemplation alone will never convince us that the "sum of the angles of a convex polygon of n sides is equal to two right angles multiplied by $n - 2$ ". The proof of the truth of this judgement is provided by other authentic judgements (e.g., the judgement that "the sum of the interior angles of a triangle is equal to two right angles"), that is, *by a series of deductions*.

Generally speaking, people cannot cognise phenomena and processes not directly perceived by the sense-organs without the help of deductions. This is why deduction is an extremely important means of knowing the concealed, intrinsic properties and connections of the objects of the material world, the essence of the surrounding phenomena and the regularities governing their development.

Without the complex mental process of deduction, man would not be able to apprehend the regularities governing the development of the Universe, determine the dimensions, mass and chemical composition of the celestial bodies and penetrate the secrets of the structure of matter, grasp the essence of processes in the invisible world of the atom, understand the intricate processes of social life, the laws of class struggle, the essence of the revolutionary movements in the world, etc. We may say that from the standpoint of its logical structure, the edifice of science is built on a foundation of mediate deduction,

because conclusions are judgements, or propositions which, as a rule, it is very difficult, or impossible, to verify directly, i.e., immediately. It is not until we compare them with other theoretical propositions, known as true, from which they logically follow, that their truth becomes apparent.

Thus, concepts, judgements and deductions are the basic forms of all abstract, scientific, theoretical thinking. It should be borne in mind, too, that these forms are employed in the act of cognition in close association with each other and interdependently, and are never isolated. Concepts, which are the basic nuclei, or cells, of scientific thought, cannot be separated from judgements, because the content of a concept is revealed solely through judgements in the form of a definition. Judgements, in turn, contain concepts as a necessary element, while deductions tie in both concepts and judgements.

Abstract scientific thinking is of great importance in the cognition of the world, of natural and social phenomena. Merely empirical observations of social phenomena occurring in a country or the world as a whole, will never reveal their essence and true purport. Plain contemplation of such events may, and often does, lead to misconceptions among people ignorant of the laws of social development. Marxist-Leninist science enables people to reason social processes scientifically in the context of concepts, laws and theoretical propositions developed by Marxism since its inception.

By the same token, the laws of social development were discovered by Marx and Engels after profound theoretical scientific thought, which enabled them to make a most thorough scientific analysis of capitalism, probe the regularities of its origin and development, spot the rockbottom contradictions of the capitalist system, prove the inevitable break-up of capitalism and the necessity of replacing socialist relations of production for capitalist relations.

The key theoretical Marxist-Leninist propositions enable the Communist and Workers' Parties to scientifically analyse the most complex developments of the contemporary epoch, and to draw the right practical conclusions. Scientific concepts hold a special place in abstract theoretical thought, because they express all the most

important, essential and regular features of things and are, for this reason, a most important element of scientific knowledge, enabling scientists to advance continuously towards a more profound knowledge of the surrounding world

Scientific concepts help the researcher to define the most general and the most essential in things, to lay bare their regular connections and mediations. As these concepts are developed, they enable scientists to investigate concrete objects and phenomena more deeply and exhaustively, to grasp their essence, and to learn the intrinsic processes taking place in them. Investigations of concrete objects are based not only on empirical data. They also draw on scientific concepts cognised and recorded earlier, and on systems of scientific concepts in which the essential, the necessary and the regular in things is defined. After apprehending the scientific concepts related to a definite province of reality, man is able to find his way about freely in this province, which is necessary for drawing correct conclusions and taking the right action.

The key social science concepts are a highly prominent element in the cognition of the complex phenomena of modern life and are therefore objects over which the different ideas, opinions and views of the different classes of modern society clash.

This is why the opponents of the socialist outlook go out of their way to distort the sense and content of the key Marxist Leninist concepts and to put a false construction on them. The late U.S. President John F. Kennedy said quite candidly that "the Soviets and ourselves give wholly different meanings to the same words: war, peace, democracy and popular will. We have wholly different views of right and wrong, of what is an internal affair and what is aggression. And above all, we have wholly different concepts of where the world is and where it is going."¹

The deliberate misconstruction by bourgeois ideologists of such key concepts of modern political life as "aggression", "peace", "freedom", "democracy", "revolution", "progress", etc., shows how important these concepts are

¹ *New York Times*, June 7, 1961

in our day, when they directly express the ideas and views of the different classes. The bourgeois ideologists, for example, identify the concept of "revolution" with "violence", "conspiracy", "anarchy", and the like. Plainly, this sort of deliberate misconstruction speaks of the fear they have of the proletarian revolution, the revolutionary movement of the masses. At the same time, they exploit the immense popularity of the very concept of revolution and, by perverting it, try to divert the masses from true revolutionary struggle. The same applies to such concepts as "capitalism", "communism", "peace", etc. The bourgeois sociologists and economists also distort the concept of modern capitalism and endeavour to replace it with the concept of "neo-capitalism" in order to obscure its antagonistic, exploiting character.

This speaks of the tremendous significance of genuine scientific concepts, which constitute the basis for all theoretical thinking, for cognition and for the practical revolutionary activity and struggle of the progressive social forces against the forces of reaction.

As we see, abstract thinking in the form of concepts, judgements and deductions enables us to learn more fully and deeply about the objective world and to probe the most important, the essential aspects, connections and regularities of reality. Lenin pointed out time and again that all scientific abstractions reflect the world more profoundly, more faithfully and more fully than sense-cognition. This is why scientific theoretical thinking is the highest phase in man's knowledge of the objective world.

Man owes it to theoretical thinking that his socio-historical activity grows more intensive and deep, and that it expands. In other words, he owes it to the deepening, and development of scientific thought. Theory, in turn, is augmented and crystallised in the process of man's socio-historical practice.

The sensory and the logical phases of cognition are organically connected. Yet in the history of philosophy these elements of cognition were often metaphysically divorced from each other, even counterposed. Some philosophers, the exponents of *rationalism* (e.g., Descartes, Spinoza, Leibnitz) identified the source of our knowledge chiefly with man's mental activity, with reason. They

considered nothing but reason to be real and dependable, and either overlooked or belittled experience and sense-perception

There was also in the history of philosophy a school diametrically opposite to rationalism, known as *sensualism* (Bacon, Locke, Condillac, etc.). The exponents of this trend believed and rightly so, that sense-experience was the basis and source of all our knowledge. Yet they underestimated, even totally ignored, the role of the rational factor in the process of cognition.

Isolation of the sensory and rational stages of cognition, and their contraposition, have not only survived, but assumed extreme forms of expression in modern idealist philosophy. Take modern positivism. The positivists assume that the sensory and logical phases of cognition have nothing in common, that they are divorced from each other and represent two completely different forms of cognition, each yielding its own specific truth basically different from the truth yielded by the other. Both these forms of cognition, the neo-positivists believe, are distinctly subjective and in no way connected with the material world

Rudolf Carnap, one of the leading exponents of neo-positivism, maintains that instead of authentic knowledge logical thought yields purely formal truths, producing no more than different variants of the formal connections of concepts, rather than the content of objects. The neo-positivists aver that the laws of logic are defined by simple agreement and that they may be arbitrarily changed, "like a snake changes its skin"

Carnap believes that empirical knowledge, which he styles as factual knowledge, is also devoid of objectivity. He argues that it is accidental and dependent on "modifications of man's nervous system". Victor Kraft, another neo-positivist, contends that sense knowledge cannot be scientifically reasoned, because it belongs to the sphere of "emotions". What is more, neo-positivism has officially proclaimed that cognition by means of scientific concepts is impossible. The neo-positivists have declared in their manifesto that "there are no 'depths' in science: there is surface everywhere.... Scientific cognition 'is devoid of

'essence'.¹ In effect, this implies that science is impotent, and represents typically positivist agnosticism.

The actual process of scientific cognition refutes the contentions of the agnostics. Science has penetrated the deep secrets of the surrounding world laying bare the objective essence of things more and more completely and exhaustively. Paul Langevin, the eminent French scientist, put it very aptly. "The power of science to apprehend reality such as it is," he said, "that is the most striking object lesson derived from all the progress made by modern physics."² The power of science is largely explained by the real unity of the empirical and the logical that is always a part of true scientific cognition. Violation of this unity sharply reduces the possibilities of cognition.

The limitations of rationalism and empiricism lie in that they take a one-sided view of the cognitive process and do not understand its historical, dialectical character. They elevate one side of the cognitive process to an absolute and underrate, even ignore, its other side. They do not appreciate the fact that in real scientific cognition neither of these two sides can exist without the other and that no abstract thinking can proceed without sense-experience, without direct, living contemplation of the subjects of thought, which is a necessary basis of theoretical thinking. On the other hand, theoretical thinking exerts a most powerful influence on empirically sensual cognition; it synthesises sense-data, organises them, and establishes their place and role in the scientific systems and theories. From this angle, too, the whole real process of cognition is profoundly dialectical.

§ 5. The Dialectico-Materialist Teaching of the Truth

As we see, the Marxist-Leninist theory of knowledge is based on the recognition of the objective existence of the material world and its reflection in the human mind.

All man's thoughts, no matter how fantastic they may

¹ *Wissenschaftliche Weltanschauung, Der Wiener Kreis*, Wien, 1929

² Langevin, "La physique moderne et le déterminisme," *La pensée*, No 1, 1939

be, are always a reflection of objectively existing things. But this reflection may be correct, or true, and it may be incorrect, or false. Lenin said that religious notions are also a reflection of reality, but an incorrect, distorted and perverted one. It is the purpose of human cognition to attain correct, true propositions reflecting reality such as it is, reflecting its real objects and their properties and relations. True knowledge is objective knowledge of reality.

But we must not think that true knowledge is objective because, as the theologians endeavour to prove, it is implanted in man by some supernatural force or constitutes the "wisdom of divine reason". True knowledge is created by man on the basis of the data which he procures from the objective reality.

Theologians and idealists strive to repudiate the objective truth of the Marxist-Leninist teaching by falsifying and perverting scientific and historical facts. G. Wetter, for example, attempts to prove in his book, *The Soviet Ideology Today*, that the victory of the October Revolution in Russia does not confirm the objective truth of Marxism-Leninism. Like any social phenomenon, he contends, the October Revolution is unrepeatable and it is therefore impossible to determine what factors induced it—those which lead up to revolution according to Marxism, or some other factors.¹

There is indeed no such thing as an absolute repetition of social phenomena, as well as of natural ones. But social phenomena of the same type, such as socialist revolutions, have sides and regularities which operate infallibly in every specific case, regardless of different features from country to country and of different historical conditions. The causes of the October Revolution were established by historians a long time ago. They are the very causes which *Marxist science pointed to before the revolution broke out*. Furthermore, the socialist revolutions that took place after the October Revolution were, for all their special features and distinctions, also marked by the same fundamental regularities that were discovered by Marxism before they

¹ G. Wetter, *Sowjetideologie Heute. I Dialektisches und historisches Materialismus*, Frankfurt am Main, 1962, S. 145

materialised in practice. This is fresh and convincing proof that the basic laws of revolution discovered by Marxism are objectively true—a fact of immense importance for the revolutionary struggle of the proletariat in all countries.

The Marxist-Leninist teaching about the objective character of true knowledge is conclusively corroborated by social practice. The facts show that knowledge which serves as a guide to action has to reflect the material world correctly. If this or that object is reflected incorrectly in man's consciousness, the use of such knowledge in his practical activity will not, as a rule, yield the desired results.

The power of the scientific Marxist Leninist propositions lies precisely in the fact that, being objective truths, they enable man not only to explain the past correctly, but also to foresee the further development of the objective reality. This is why they are a powerful instrument in the practical transformation of reality.

Drawing on their objective and scientific knowledge of reality, the Communist and Workers' Parties have charted the immediate and the more remote prospects of the working people's struggle for man's better future. All Marxist-Leninist Parties base their activity on the genuinely scientific principles of objective cognition. The late Palmiro Togliatti commented on this score in an article in *L'Unità*, entitled "Truth, Revolution, Party". The truth, Togliatti said, is an objectively correct and exhaustive knowledge of the world and its development. This development inevitably assumes a revolutionary complexion. Therefore, everything the Party does must be subordinated to revolutionary aims. This is why the truth, the revolution, and the Party, form a profound unity, constituting the purport of all modern history.¹ The same idea was also splendidly expressed by the late Maurice Thorez in an article aptly entitled, "The Power of Truth". He said: "The power of the Communist Party, its viability, its effective action, derives first and foremost from the truth of its teaching, its policy, its propaganda."²

¹ *L'Unità*, January 21, 1962.

² *L'Humanité*, March 17, 1962

These profoundly correct propositions set out by the two distinguished political leaders and Marxist-Leninist theorists, are the key to an appreciation of the historical purport of the working-class struggle, to correct orientation in the highly complex contemporary struggle against bourgeois ideology, which would be inconceivable without exposing and establishing the true character of current events. The concept of objective truth is of decisive importance in this respect.

To sum up, dialectical materialism considers as objective truths such scientific propositions which correctly reflect the objects and processes of the material world. The content of objectively true propositions is conditioned entirely by the content of the material reality, which fact is confirmed and substantiated in the social practice of men.

It follows from this definition that *every scientifically true theory is objectively true*. Hence the content of objectively true theories does not depend on the subjective opinions of individuals, because it reflects the content of the objective, material world.

The recognition by dialectical materialism of the objective character of all genuinely scientific knowledge has always evoked protests on the part of bourgeois idealist philosophers. Acting on the class interests of the bourgeoisie, they are bent on distorting the objective truth in order to conceal from the people the objective course of historical development, to camouflage the true objective laws of history, and to pronounce natural and social phenomena unknowable. To begin with, they distort the very concept of objectiveness. For the modern reactionary bourgeois philosopher that is "objective" which serves the interests of imperialism, grinds the axe of the capitalists, and secures the latter's "practical success". If religious ideas, says pragmatist James, help to achieve success and if it turns out that the concept of God meets the conditions on which success is built, why should pragmatism deny the divine presence? It would be absurd, James concludes, to pronounce "untrue" a concept fruitful in the pragmatic context.

James justifies this subjective and arbitrary approach to the truth by claiming that man's thoughts are not in themselves either true or false. Our thoughts, he thinks,

are no more than tokens of the truth. It is our belief, he explains, that makes our thoughts really true. James exploits the fact that different, even opposite, hypotheses are often made in science on one and the same subject, and maintains that each of them may be either proved or denied. Belief, he says, is the main crucible. That is true which we believe, he says, and we believe only that which is useful, which "grinds our axe." This means, according to James, that truth depends entirely on man's arbitrary will.

Charles Peirce, another U.S. pragmatist, whose views are today fashionable in the United States, also says that truths and convictions are intimately related to faith and are no more than directions and rules of conduct. However, this conception of the truth is being ridiculed even by bourgeois philosophers. Josef Linhart, the Czech philosopher, quotes in his book, *American Pragmatism*, one such bourgeois critic. "If anybody asks you whether you have had your breakfast," Linhart quotes him as saying, "you must not shape your reply to him according to what you remember, as a normal person would, you must first weigh what consequences this or that reply will entail for you; at first you must say that you have had your breakfast and explore what advantages this answer yields you; then you must say the reverse and again explore the effects of your reply; then you must weigh which of the two replies suits you more, and this reply will be true."¹

It is quite obvious that this sort of prattle has no relation to the scientific cognition of the world, whose purpose is to attain the objective truth, not subjective and arbitrary judgements.

One of the most "fashionable" modern schools, that of semantic idealism, also repudiates the objective truth. Alfred Korzybski, the founder of general semantism, maintains that all our knowledge is distinctly individual and contains no objective properties, because one and the same object induces different sensations in different people. "The response of each individual to similar external stimuli," he writes, "is individual. We can only agree on

¹ J. Linhart, *American Pragmatism*, Moscow, 1954, p. 81 (in Russian).

colours, shapes, distances, by ignoring the fact that the effect of the 'same' stimulus is different in different individuals. Besides that, we have no accurate means of comparing our impressions."¹

By this token, the impressions evoked in different people by objects of the material world being different, no objective criteria of their truth can exist, and nothing but conventions, or agreements, are possible. This means that the semantic idealists are of the same mind as the conventionalists, who openly deny the objective truth of our knowledge. The semanticists make no effort to conceal this. They define as agreements such truths as are absolutely self evident to us. The assertion that $2 = 2$, says Wendell Johnson, for example, is indubitable simply in the sense that we agree to treat it as true.²

All this leads the semanticists to the inference that cognition is purely subjective and individual. According to the semanticists every person has his or her own truth and there are as many truths as there are people. For the semanticists the criterion of the truth is also subjective, because many of them believe that the person accepts as true only that which is useful to him. This is a point of close contact between the semanticists and the pragmatists.

The same point of view is, in effect, held by the various revisionists, who cast doubt not only on the objective character of our knowledge, but also often question the objective existence of the material world. Henri Lefevre, the French revisionist, for example, styles as vulgar Marxists those who consider that all surrounding objects, serving as objects of cognition, exist outside us and independently of us.

We should also note that even some Marxists adhere to the wrong point of view that it is not the reflection of the objects of reality in man's consciousness, but these objects themselves, which are true.

It stands to reason that dialectical materialism does not identify the reflection with what it reflects, the idea of an

¹ A. Korzybski, *Science and Sanity*, Lakeville, Connecticut, 1948, p. 375.

² W. Johnson, *People in Quandaries*, New York, London, 1946, p. 126.

object with the object itself, just as we do not identify a photograph with the subject of the photograph. Yet a faithful photograph always enables us to define the subject of the photograph correctly.

The ideal is the material transplanted into the human brain and transformed in it, said Marx. This is why our sensations, ideas and concepts, being really objects "transplanted" into our brain or the products of the action of material objects on our sense-organs, are not the figments of a sterile and subjective imagination. All the same, man's sensations and his ideas about an object are not identical with the object. They represent objects "transplanted into the human brain and transformed in it" As such, they contain what is injected into them by man's consciousness, that is, subjective elements aspects and features.

The presence of these subjective elements is due to the fact that cognition of the objective world is always human cognition, for which reason the depth and degree of authenticity of the reflection of the material world depends to some extent on the investigator, on his personal faculties. Reflection is not an automatic process taking place in an abstract brain. It occurs in the heads of persons subjected to the continuous influence of a complex social and physical environment. Some of the conditions of this environment facilitate true cognition, while others tend to produce a distorted reflection of reality. This distortion may be induced by, say, certain group or class interests, psychical emotions, a biased selection of pertinent facts and other materials in the process of cognition, etc.

Thus, campaigning against Kantianism and Machism, both of which ultimately arrive at one and the same idealist conclusion, dialectical materialism recognises not only the resemblance between objects of the real world, on the one hand, and their reflections in man's mind, that is, sensations, ideas and concepts, on the other. Dialectical materialism also recognises a certain difference between them, because the essence of objects and phenomena of the real world, and the form in which they are perceived by us, do not always coincide.

We know that sometimes our sensations do not convey the content of phenomena quite accurately and, as it were,

distort the picture of the real world. For example, people perceive the Earth's rotation round its own axis as the Sun's rotation round the Earth, etc. For all this, it would be wrong to conclude, as the idealists do, that our sensations are incapable of producing a trustworthy picture of the world. "Not in one single instance, so far," Engels wrote on this score, "have we been led to the conclusion that our sense-perceptions, scientifically controlled, induced in our minds ideas respecting the outer world that are, by their very nature, at variance with reality or that there is an inherent incompatibility between the outer world and our sense perceptions of it."¹

Human thinking based on man's practical activity helps us to correct the discrepancies between our sensations and the essence of things. The subjective element in cognition is giving way more and more to its objective content. The facts have proved beyond doubt that our sensations give us an essentially correct idea of the world and offer us unlimited scope for cognising the surrounding world.

This naturally leads us to the question of whether every truth gives us complete and exhaustive knowledge about the object it reflects, or whether our truths contain an incomplete, partial, approximate knowledge of the object concerned. The Marxist teaching on absolute and relative truth provides the answer to this question.

An absolute truth is an objective truth which contains complete and conclusive knowledge of the essence of the objects and phenomena of the material world

In apprehending the objects and regularities of the objective world, man cannot attain absolute truth at once, completely and finally. He attains it gradually, in the process of the continuous development of knowledge.

The movement of human cognition towards absolute truth proceeds through the medium of numerous *relative truths, that is, concepts, propositions and theories which, in the main, reflect the phenomena of the objective reality correctly; but the reflection is no more than approximate, being tied to the historical level of development attained by human knowledge.*

Absolute truth, Lenin wrote, "is compounded of a sum

¹ Marx and Engels, *Selected Works*, Vol. II, Moscow, 1962, p. 101.

total of relative truths. Each step in the development of science adds new grains to the sum of absolute truth, but the limits of the truth of each scientific proposition are relative, now expanding, now shrinking with the growth of knowledge."¹ The limits of our knowledge are historically restricted at every given moment, but as man's scientific practice develops and improves, he approaches closer and closer to absolute truth, though he never exhausts this truth. This is quite understandable. The objective world is in a state of continuous motion and development, and at no stage of this development can man's thoughts catch up with the endless multiformity of eternally developing reality. All man is able to do is to reflect the world partially, approximately, and relatively, within the limits set by the development of social practice in the period concerned.

Cognition is not a short and singular act, but a long, complex and ceaseless process in the course of which man gradually advances from the apparent sides of the phenomena of the surrounding world to their concealed, intrinsic properties, their most important connections and regularities. "Human thought," Lenin notes, "goes endlessly deeper from appearance to essence, from essence of the first order, as it were, to essence of the second order, and so on without end."²

It is important to note that the element of relativity in our knowledge shrinks more and more with the progress of our scientific and social practice, but that it never entirely disappears, though the grains of absolute truth grow continuously. Every new scientific discovery, every point added to our knowledge, represents a new step towards a fuller knowledge of the regularities governing the material world, towards absolute truth.

This does not go to say, however, that absolute truth is an inaccessible ideal which man can only strive to achieve, though he will never attain it. Dialectical materialism repudiates this agnostic approach to the question of absolute truth. It believes that there is no abyss, no insuperable barrier, between absolute and relative truths, and that we

¹ V. I. Lenin, *Collected Works*, Vol. 14, p. 135

² *Ibid.*, Vol. 38 p. 253

we continuously apprehending the absolute truth. There is a definite aspect of absolute truth, a definite side of it, in every relative truth, every truly scientific proposition, every scientifically grounded theory. At the same time, as we have already pointed out, truth also contains a relative element, because the contradictory nature of the cognitive process stems precisely from the fact that human ideas, conceptions and theories form a dialectical unity of the absolute and the relative, the objective and the subjective in cognition.

Opposing both relativism and dogmatism in cognition, and defining the question about the relation of absolute and relative truth in this connection, Lenin wrote: "From the standpoint of modern materialism, i.e., Marxism, the *limits* of approximation of our knowledge to objective, absolute truth are historically conditional, but the existence of such truth is *unconditional*, and the fact that we are approaching nearer to it is also unconditional. The contours of the picture are historically conditional, but the fact that this picture depicts an objectively existing model is unconditional. When and under what circumstances we reached in our knowledge of the essential nature of things, the discovery of alizarin in coal tar or the discovery of electrons in the atom is historically conditional; but that every such discovery is an advance of 'absolutely objective knowledge' is unconditional. In a word, every ideology is historically conditional, but it is unconditionally true that to every scientific ideology (as distinct, for instance, from religious ideology) there corresponds an objective truth, absolute nature."¹

These propositions set out by Lenin also apply to the general regularities governing the knowledge of all phenomena in nature and in society.

Let us also note that, according to dialectical materialism, the concept of absolute truth covers not only a complete, conclusive and exhaustive knowledge of the objective world, that is, absolute truth in the broad sense of the word, but also such truths which reflect exhaustively and absolutely a separate fact, phenomenon or regularity, that is, absolute truth in the more narrow sense of the word.

¹ V. I. Lenin, *Collected Works*, Vol. 14, p. 136

How can we, for example, question the absolute truth of the Marxist proposition that the world is in a state of eternal and endless motion and development? This proposition is an absolute truth and does not need to be amended or corrected. But once we begin to make this absolutely true general proposition specific, once we examine the ways, forms and types of the motion of matter, we enter a realm of relative truths, because the specific forms and types of the motion of matter cannot be considered abstractly. Matter in motion can assume a variety of forms and types, depending on the concrete historical conditions. In specific circumstances one form of the motion of matter is liable to turn into another form of motion, and in certain circumstances there may even appear entirely new types of the motion of matter, which mankind has still to learn.

Take Lenin's definition of matter as the philosophical category denoting the objective reality imparted to man through his sensations, which is copied, photographed, reflected by our senses, but exists independently from them. This definition was, is, and always will be absolutely true. The enemies of Marxism have endeavoured time and again to refute this definition of matter, to pronounce it as obsolete, but their attempts have always come to nought. Lenin repulsed their revisionist contentions and pointed out that the concept in question will never grow old, just as the concept that sight, touch, hearing and smell are the source of human knowledge, will never grow old. Some absolutely true propositions will retain their purport throughout the endless process of human cognition.

The Marxist-Leninist teaching about the relation between absolute and relative truth has a strong bearing on the struggle against philosophical relativism, which is the theoretical basis of revisionism. Philosophical relativism, which repudiates all eternal truth, does not recognise the objective character of scientific knowledge, blunting man's faith in the cognitive faculties of human thought and leading to a negation of the possibility of knowing the surrounding world, that is, to agnosticism.

Dialectics, Lenin pointed out repeatedly, includes relativism. But it does not boil down to relativism. It recognises

the relativity of all our knowledge, not in the sense of denying the objective truth but rather in the context of the approximation of our knowledge to absolute truth.

The modern revisionists hold what are in effect relativist views. They deny the objective truth of the scientific Marxist propositions, the basic principles of Marxism-Leninism—the teaching about socialist revolution, the dictatorship of the proletariat, and others. They pronounce these to be “relative truths”, conditional propositions, and reject them on these “grounds”. Revisionism opposes the objective truth. It opposes the principles of Marxism-Leninism and ignores the decisive fact that all the revolutionary Marxist Leninist principles have been repeatedly confirmed by the historical practice of our time and therefore belong among the immutable objective truths.

Philosophical relativism is, in effect, a variety of agnosticism. This is one of the reasons why it is being propagated so widely by the modern bourgeois philosophers. To begin with, there are distinct elements of it in semantic idealism. Let us quote S. Hayakawa, a modern semantist, on this score. Here is what he says: “Let us say that there is before us ‘Bessie’, a cow. Bessie is a living organism, constantly changing, constantly ingesting food and air, transforming it, getting rid of it again. Her blood is circulating, her nerves are sending messages. Viewed microscopically, she is a mass of variegated corpuscles, cells, and bacterial organisms; viewed from the point of view of modern physics, she is a perpetual dance of electrons. What she is in her entirety, we can never know; even if we could at any precise moment say what she was, at the next moment she would have changed enough so that our description would no longer be accurate. It is impossible to say completely what Bessie or anything else really is.”¹

Wendell Johnson, another semantist, adds that not only the object of the investigation, but the investigator as well, change continuously. At the close of his investigation of a question, says Johnson, the investigator is something entirely different from what he was at the beginning of it. Johnson draws the conclusion that all our

¹ S. I. Hayakawa, *Language in Thought and Action*, London, 1959, p. 166.

knowledge is distinctly relative and therefore unauthentic, because it does not conform to the true nature of things. What is more, the above conception prompts Johnson to say that the very facts and events are created by people. "The world as known to us," he says, "is a joint product of the observer and the observed."¹

The relativism of the semantic idealists is thus based on their elevating the mutability of the world to an absolute and on their ignoring the state of relative rest, the definite stability of the properties and relations of things. As we know, dialectical materialism proceeds from the fact of interminable motion, from the development of material objects. However, this motion is far from always marked by changes of the basic and chief properties of objects. For a more or less long period of time, no more than partial, insignificant quantitative changes occur. In this period, the basic properties of the object remain immutable on the whole and it therefore retains its qualitative definiteness and relative stability.

For example, every living organism (including Haya kawa's Bessie, the cow) experiences various changes in the course of its life. These changes occur continuously and consist of a continuous dying of some cells of the organism and the birth of others, of a ceaseless metabolism between the body and its environment, etc. However, the qualitative definiteness of this body remains the same throughout—the cow is still a cow with all its typical characteristics, a man is still a man, a plant still a plant, etc.

From the moment of its emergence and up to the hour of the socialist revolution, capitalism goes through continuous, quite substantial, even qualitative, changes (take the transition from pre-monopoly capitalism to imperialism), but the fundamental qualities of capitalism, those that characterise its essence, remain intact throughout this period: capitalism remains an exploiting social system based on private ownership and the division of men into hostile classes.

So, since the basic and fundamental properties of objects survive throughout the period of their existence, they are

¹ W. Johnson, *People in Quandaries*, New York, London, 1946, p. 96.

truly and objectively knowable and their reflection in our consciousness is adequate.

This is why the contention of the semantic idealists that the essence of things is unknowable because things change their quality continuously, has no scientific ground to stand on and is totally repudiated by the many centuries of development of science and practice.

The Marxist-Leninist teaching on the correlation of absolute and relative truth cuts the ground from under relativist idealism, and also from under the dogmatists and doctrinaires who hold the metaphysical view that all our knowledge consists of eternal and immutable truths which need merely be learned by rote and applied in all exigencies.

From the scientific viewpoint, truth is not a petrified, unmovable entity, but a dynamic one, one that develops continuously, deepening and improving all our knowledge. The cognitive process, the process of deepening and improving knowledge, is just as endless as motion is endless, as the development of the objective reality is endless. In this endless cognitive process man's mind proceeds continuously from appearance to essence and from less profound essence to more profound essence, etc. *The truth is a process* Lenin always stressed this point.

In applying this proposition of materialist dialectics to the study of social phenomena, Marxism-Leninism indicates that every social system, every social movement, must be assessed in the context of the conditions that engendered the system, or the social movement, and with which they are organically connected.

Social phenomena quite natural in one historical environment become an absurdity in another. Something correct and natural in its proper time may be incorrect and harmful in a changed situation. It is this rudimentary truth that the dogmatists with their stereotyped "straightforward" mentality refuse to understand.

Marxists have always held that a truth must be considered concretely, in conformance with the situation, place and time, for the objective world is in a state of continuous development. The inception and development of objects and phenomena proceeds all the time, while other phenomena disintegrate and are destroyed. It is a process

of the dying of the old and of the emergence of the new. This is why all phenomena must be examined in the context of their inception, development and decay.

If the world is in a state of continuous flux and renewal, our knowledge of the world, too, cannot be permanent and immutable, abstractly serviceable at all times and in all cases. Cognition must be an unintermittent process of finalising old aspects of reality and discovering new, priorly unknown aspects of reality. Our knowledge must be flexible, mobile and changeable. Often, the burgeoning new element does not fit into the framework of our old, customary conceptions and ideas. Old truths must always be amended or changed, in order to reflect the new regularities implicit in the interminable development of the world.

Marx, Engels and Lenin have produced striking models of how to deepen scientific propositions in studying social phenomena with all their concrete connections and mediations. Their works contain brilliant examples of how the general propositions of Marxist-Leninist theory should be correctly applied to specific social phenomena and historically conditioned situations and conditions of the class struggle.

Take the example of how Lenin creatively applied the proposition that the bourgeois character of the revolution in Russia followed from the character of her economic development. Lenin pointed out that this key proposition should always be borne in mind and applied to all the economic and political problems of the Russian revolution.

"But one must know how to apply it," Lenin wrote. "A concrete analysis of the status and the interests of the different classes must serve as a means of defining the precise significance of this truth when applied to this or that problem. The opposite mode of reasoning frequently met with among the Right-wing Social-Democrats headed by Plekhanov, i.e., the endeavour to look for answers to concrete questions in the simple logical development of the general truth about the basic character of our revolution, is a vulgarisation of Marxism and downright mockery of dialectical materialism. Of such people, who from the general truth of the character of this revolution deduce, for example, the leading role of the 'bourgeoisie' in the revolution, or the need for socialists to support the liberals,

Marx would very likely have repeated the words once quoted by him from Heine 'I have sown dragons's teeth and harvested thistles'.¹

The concrete approach, as we see, presupposes an exhaustive treatment of the object under study. It requires that all the connections of things should be taken into account. The truth must not be reduced to merely general propositions which are the upshot of generalising only past experience. Every truth, Lenin said, may be reduced to nonsense by applying it outside the sphere where it is really applicable.

All the propositions of Lenin's revolutionary strategy and tactics, which constitute the science of leadership of the proletariat's class struggle, are based on a precise analysis of, and consideration for, the current situation in every concrete historical space of time. Lenin pointed out that the question about the forms of proletarian struggle cannot be treated outside the concrete prevailing historical situation, for this would be tantamount to ignoring the ABC of dialectical materialism.

The fact that dialectical materialism recognises truth as concrete does not mean, however, that every concrete case, every phenomenon, has its own specific truth. Marxists repudiate the modern theory about the "duality of truth" and the "multiplicity of truths". That is the sort of "theories" the Church and the theologians are happy to preach, because they are eager to uphold their own "religious truth" which allegedly transcends all philosophical and scientific truths, by all possible means.

It is their purpose to prove that "divine truth" is supreme and universal, that it is capable of cognising all the aspects of man's life. They aver that the other varieties of truth are no more than subordinate and play a limited, secondary role.

Yet there is no such thing as two or several truths with regard to one and the same phenomenon. There is one authentic truth, which correctly reflects the objective reality. It is the only genuine truth, truly scientific, philosophical and "ordinary". Religious truth is no truth at all, because it is a distorted, false reflection of the material world based

¹ V. I. Lenin, *Collected Works* Vol. 3, p. 32

on illusions, on fantasy. The exponents of every religion uphold their own "truth", while rejecting the "truths" preached by the exponents of other faiths. Yet none of them is able to produce a truly scientific picture of the world; this puts all religious notions beyond the sphere of truth. Religious truths are a *contradictio in adjecto*, that is, self-contradictory.

The Marxist-Leninist teaching that *truth is concrete* conforms fully with the proposition about the universality of truth, which follows directly from the Marxist proposition about the world's material unity and from the view that the objective reality is a unity of variety. All the key Marxist-Leninist principles and ideas of common significance for all countries and nations, are of the nature of universal truths. This universal character of the truths of Marxism-Leninism has been exhaustively proved by the experience of the international communist and working class movement in all countries and continents.

The modern revisionists and dogmatists, however, defy this fact and maintain that Leninism is a purely Russian phenomenon and that, for this reason, its conclusions are inapplicable to other countries. This reveals their total lack of understanding of the essence of Leninism as a universal truth. The universality of Leninism as the Marxism of our time follows, among other things, from the fact that it is the product of a generalisation of the practice of the whole world revolutionary movement, and not that of Russia alone. It expounds the regularities governing the development of modern society as a whole, the objective laws governing the economic and political development of all countries and nations, the "logic of social being" that is universal in character and action.

This reveals the fallacy and reactionary substance of the dogmatic proposition dividing the world into different zones—the "European zone", the "Asian zone", the "American zone", etc., each of which is alleged to have its own laws of revolutionary liberation, its own specific "truths". That, indeed, is the source of the so-called Sinified Marxism, said to be true for the Asian countries. From the scientific standpoint this is an absolutely fallacious view, because it ignores the world experience of the revolutionary movement and

the revolutionary nature of the Marxist-Leninist principles common for all the peoples of the world, and also because it separates the concrete and particular from the universal and metaphysically counterposes these concepts. By so doing, the dogmatists as usual substitute metaphysics for dialectics, which shows once more that their contentions, designed to justify their schismatic nationalist policy, are baseless.

The great and universal truth of Marxism-Leninism has nothing in common with this sort of "Marxism".

§ 6. Practice—the Criterion of Truth

The criterion of truth has always been a prominent issue in the various gnosiological theories. When people defined the source, and the ways and means of cognising the surrounding world, they were inevitably plagued by the question of how to separate the true from the false, of how to determine the authenticity of our knowledge.

The idealists, as we already know, avoid verifying their ideas by the facts, by social practice, and prefer to deduce ideas from ideas, to compare theories with theories, to check thoughts by thoughts.

Not only the idealists, however, but all the pre-Marxian materialists as well, were unable to scientifically resolve the problem of the criterion of the truth. All pre-Marxian philosophy either ignored the role of practice as the criterion of the truth, or reduced it to experiments, observations and the activities of specific individuals.

The credit that is due to Marx and Engels for building up a truly scientific theory of knowledge devolves principally on their postulating for the first time in social thought the decisive role of *social practice* in the cognitive process. They proved that social labour, above all the production activity of men, is the decisive criterion of the truth, the ultimate purpose of cognition, as well as the most important basis and motive force of the whole cognitive process.

"For the materialist," Lenin wrote, "the 'success' of human practice proves the correspondence between our ideas and the objective nature of the things we perceive."¹ None but the ideas and theories confirmed by

social practice—in the broad sense of that concept—may be taken as a faithful reflection of the objective world.

Many idealist philosophers reject practice as a criterion of the truth. What is more, they claim there is no dependable criterion to establish the truth of our knowledge. The sceptics, for example, base their theory of the world being unknowable chiefly on their repudiation of the existence of *criteria of the truth*.

The notion that a given criterion is an authentic criterion of the truth, they hold, has to be proved like any other scientific proposition. Yet this proof, they say, has to rest on some new criterion, to which we can again apply the same formula. The truth of the second criterion has to be proved by means of a third, and so on, *ad infinitum*. This means, they infer, that no authentic criterion of the truth exists at all. If no criterion of the truth exists, they continue, we are entitled to treat as equally authentic a given judgement and a diametrically opposite judgement, which means that we have no real criterion of the truth.

The basic error of this idealist line of reasoning is that it rests entirely on the unscientific proposition that every theoretical judgement is provable only by means of other theoretical judgements. This is groundless in the light of the basic proposition of the Marxist theory of knowledge to the effect that every theoretical proposition constitutes the reflection of a definite aspect of the material world and that, therefore, we must turn to objective reality, to social practice, for proving the truth of any theoretical proposition, because it is through social practice that man effects his connection with the surrounding world. Theories are not checked by theories, but by the practical social activity of men.

In substance, the semantic idealists also repudiate the objective criterion of the truth. They chime in with the pragmatists in assuming that only those propositions which serve the purposes of the subject, are true. Hayakawa, for example, maintains that society considers as true only those "systems of classification which lead to the desired results".

Their repudiation of the objective criterion prompts the

¹ V. I. Lenin, *Collected Works*, Vol. 14, p. 140

semanticists to infer that truth is altogether out of man's reach and that there can be no question of this or that proposition being true. At best, they say, we can speak of a certain degree of probability, for we cannot be certain of any scientific proposition; any truth is no more than probable in character.

However, some idealists do not venture deny outright the existence of the criterion of the truth. Many of them do so more subtly. I. Savary, a modern idealist, recognises the existence of truth criteria, but believes that there are many of them and that we are equally justified to apply whichever one we like. The choice of a criterion, he believes, depends essentially on the arbitrary wishes of the investigator. The choice of this or that criterion of the truth, he says, depends on a volitional prompting, a certain interest, a certain arbitrary urge, so be it. In effect, this implies a rejection of all criteria and testifies to idealism's impotence in settling this important problem of the theory of knowledge.

The modern revisionists, too, essentially repudiate practice as the criterion of the truth. They believe that practice is unable to prove the truth of the materialist outlook, and even the very existence of the material world.

From the point of view of the revisionists, proof boils down to just a mental operation. They rule out practice as the sole objective criterion of the truth.

It follows that wherever truth is verified by practice we cannot claim accuracy and proof. How, then, is this "accuracy" really determined? What remains are "pure thoughts" used to check other "pure thoughts." Is it not obvious that this view is absolutely identical to the idealist conception of the criterion of the truth that really negates it?

It should be noted that many critics of the Marxist-Leninist philosophy distort the dialectico-materialist teaching on practice being the criterion of the truth, and identify it entirely with pragmatism. Take Lange's book, *Marxism-Leninism-Stalinism*. It repudiates out of hand the Marxist-Leninist teaching about the truth and the role of practice in cognition. It maintains that this teaching is identical to the teaching of the pragmatists. Lange argues that from the dialectico-materialist point of view "truth is ultimately that which advances totalitarian communist development.

According to this theory it is those in power who ultimately decide what is true and what is untrue."¹

Similar contentions are spread by I. M. Bochenski in his book, *Contemporary European Philosophy*, published in the United States. He maintains that Marx and Engels made it their purpose to devise a philosophy whose every proposition would serve the requirements of the political hour.

The reactionary U S philosopher, Sidney Hook, said in his report to the Twelfth International Congress of Philosophy that Soviet philosophy "brings the class struggle into science and makes politics the arbiter of truth".²

All these contentions, typical of the modern bourgeois ideologists, have no scientific basis and are entirely groundless. The fact that dialectical materialism upholds the decisive role of practice in cognition is no reason at all to speak of its identity with pragmatism, because dialectical materialism and pragmatism take a different, diametrically opposite, view of practice.

The dialectico-materialist conception of practice as the socio-historical activity of men aimed at a revolutionary transformation of reality has nothing in common with the pragmatic conception. James, Dewey and their followers reduce practice to private individual activity aimed at biological adaptation to the environment and attainment of the maximum success and advantage. Dialectical materialism believes that theory serves practice solely because it is true, while pragmatism believes the very opposite—that a theory is "true" because it is serviceable in practice, because it "serves" our ends, because it is in some way advantageous. With an approach of this kind one will justify any theory at all, and any ideas, so long as they "yield results".

Every man in his right mind knows perfectly well, though he may never have studied philosophy, that only such thoughts and ideas are true which are confirmed by life, by practice. If, on the other hand, any of man's notions diverge from what really is, from what man's practical activity shows, they are rejected without hesitation as false.

¹ M. Lange, *Marxismus Leninismus-Stalinismus. Zur Kritik des dialektischen Materialismus*, Stuttgart, 1955, S. 177.

² Hook, "Man and Nature", *Atti del XII Congresso Internazionale di Filosofia*, Vol. II, Firenze, 1960, p. 206.

This is how people have always acted in their daily affairs throughout history. Marx and Engels summed up man's activity down the centuries in the field of cognition and the transformation of the world, and scientifically proved that this sort of practical verification of our knowledge is the only way that guarantees its truth and gives us confidence that it can be fruitfully applied in life.

We know, for example, that modern flying machines embody the latest achievements of scientific and technical thought. Every such machine (airplane, rocketcraft, etc.) is an embodiment of most complex computations and profound conclusions made by designers and engineers. Nothing but practice can confirm or repudiate these computations and theoretical conclusions. All the merits and demerits of an aircraft and, accordingly, all the true and erroneous theoretical computations of its builders, are laid bare only after the test-pilot performs his test flights. It is the practical use of aircraft that enables us to detect and correct the theoretical mistakes made by their designers and to improve and perfect these aircraft continuously.

At one time there was the conception in the theory of radio communication that short waves were useless for remote radio transmission. The practice of radio amateurs repudiated this point of view and proved the very opposite. Now we know that short waves are essential for remote and extraremoite radio communications.

At present, there exists the theory that radio communications may be established over immense distances in excess of 100 million kilometres. However, practice was the only thing that could substantiate the truth of this theory. The interplanetary automatic laboratory launched by the Soviet Union in the direction of the planet Venus and the Soviet rocket that landed on its surface and sent radio signals to the Earth, and the explorations of the Mars by U.S. scientists contributed substantially to the verification of this theory.

The same rule applies to the scientific cognition of society, to the various theories of social life. The theory of the bourgeois-democratic revolution developing into socialist revolution, postulated by Lenin in his work, *Two Tactics of Social-Democracy in the Democratic Revolution* and finalised in his *April Theses*, created an uproar among the Rus-

sian and other opportunists. They rejected it and described it as fantastic, unreal and liable to undo the revolution. But the facts, practice, the further course of the revolution, conclusively confirmed Lenin's ideas. The theory was freshly confirmed through the development of revolution in the European and Asian People's Democracies, and is valid today in relation to the powerful democratic movements in various countries with the inevitable tendency of developing into socialist revolutions.

Social practice enables us to sift the essential from the non-essential, the necessary from the accidental, the permanent from the transient. Practice helps man to expose the obsolete and outworn theories, which act as a brake on the progressive development of human society, and all unscientific and erroneous ideas and notions.

Nothing could be more ignorant and witless than the contention of the bourgeois ideologists that in Soviet philosophy politics is the arbiter of the truth. On the contrary. Not politics is the criterion of the truth, but practice is the criterion of politics. The policy of Party and Government is constantly checked and confirmed through practice.

It is the practical activity of the people that proves the correctness of the policy of the Communist Party and the Soviet Government.

It should be borne in mind, however, that the proposition of the Marxist theory of knowledge about practice being the sole objective criterion of the truth should not be taken to mean that every scientific theory, every separate scientific proposition, must always directly and immediately be verified by practice. If this were so, science would be inconceivable, because every new generation of people would have to check by practice all the theories developed by the preceding generations, that is, to begin cognition all over again every time. A scientific theory is considered proved even if its truth is confirmed solely by logical proofs which substantiate the truth of one set of judgements by means of other judgements proved earlier and tested by practice.

This fact was often exploited by various idealists to try and disprove the proposition of the Marxist theory of knowledge that social practice is the sole and ultimate criterion of the truth. If a proposition may be proved by "purely" logical means, they contend, then practice is not

the sole criterion of the truth. What is more, they refuse pointblank to accept practice as the criterion of the truth and maintain that the most dependable proof of the truth of a scientific proposition derives solely from logically correct reasoning entirely unassociated with practice.

Dialectical materialism has refuted this idealist point of view. Many theoretical propositions, it is true, are indeed proved by logical means without *direct* reference to practice. The mathematician, for example, does not, as a rule, refer directly to the material world, to practice, to prove a theorem. He leans in his proof on earlier proved theorems, axioms, definitions, and the like. However, in all cases a logical proof is valid only if all the arguments advanced in the process of proving are incontestably true and are not dogmatically accepted by science *a priori*, as an act of faith. All of them have to be most conclusively proved and tested by experience, by life, by man's practice. This means that there is social practice behind every logical (or theoretical) proof, and that practice operates as the criterion of the truth in such cases as well, but in an indirect way.

Lastly, it is essential that we underscore the dialectical nature of practice as the criterion of the truth of our knowledge.

Practice must not be considered metaphysically, as something constant, ossified and immobile. It develops and improves continuously, keeping step with the development of the objective reality, the development of social production and of scientific knowledge. Inasmuch as the development and improvement of social practice is an endless process, it is certain, as the criterion of the truth, to include an element of relativity. Continuously developing social practice enables us to penetrate more and more deeply into the essence of the objects and phenomena of the material world, and to discover in them new aspects, properties and regularities, to discover new truths, to correct and improve the old truths, and to repudiate those which have ceased to conform with the latest achievements of science and practice. More perfect social practice is also a more perfect criterion of the truth.

It is this that determines the relative character of the practice criterion. This is why, too, it does not establish the absolute authenticity of truth for all time, and makes

our knowledge flexible and mobile, enabling us to ceaselessly deepen, extend and improve our knowledge of the objects and phenomena of the material world. That which was confirmed by the practice of yesterday is corrected, supplemented and made more precise by the practice of today. This secures truly creative development for all truly scientific theories.

But when we speak about the relative character of practice as the criterion of the truth, we should bear in mind that in the process of its development social practice does not reject out of hand the old notions and theories if they appeared on the basis of the generalisation of previous practice and were confirmed by the practice of that time. The objectively true content of knowledge is preserved in subsequent cognition. Practice corrects and extends our knowledge and makes it more precise, securing scientific progress for society. This conception of the practice criterion has nothing in common with the metaphysical absolutisation of knowledge, with the notion that knowledge is an eternal, immutable dogma. Neither does it have anything in common with the other extreme—relativism, subjectivism and scepticism, which completely repudiate the role of practice as the criterion of the truth, deny that knowledge is objective and consider it no more than relative.

Practice as the criterion of the truth contains an element of relativity, but is, at once, absolute in the sense that it enables us to determine the objective truth of our knowledge and because it rejects all the varieties of agnosticism.

* * *

The process of cognition we have examined above shows that scientific theory and social practice are unbreakably connected and form an intimate dialectical unity. This unity derives not only from the fact that practice is the basis of the cognitive process and the criterion of the truth of our knowledge, but also from the fact that practice is the ultimate purpose of cognition.

The chief purpose and sense of any science, social science included, boils down to the objective of easing man's life, of using the obtained knowledge to harness the natural and the social forces, to gear them to man's interests, to the

revolutionary reconstruction of the surrounding world. Science makes its discoveries not to satisfy the scientist's thirst for knowledge, not for the sake of his curiosity, as the idealists maintain, but in order to illumine man's practical activity, to help him work more effectively for mankind's better future.

Man is helpless in face of such phenomena of the objective world that he has not yet grasped. On the other hand, if man knows the causes behind the inception of objects and phenomena, if he knows their principal properties and the regularities governing their development, he is able to control and dominate these objects and phenomena. When people did not yet know what thunder and lightning were, and why there were lunar and solar eclipses, earthquakes, floods and other natural phenomena, they were unable to protect themselves more or less effectively from their pernicious effects, let alone control them. This is why such phenomena induced fear. People thought that each such phenomenon was brought down on them by supernatural beings as a form of punishment, etc. But in due course, man's cognitive activity based on social practice enabled him to lay bare the secrets of the surrounding world one after the other and to learn the causes of the phenomena he had earlier thought supernatural. This, in turn, enabled people to protect themselves effectively against the destructive effects of these phenomena and to use their beneficial properties for their own ends. Lenin said: "The mastery of nature manifested in human practice is a result of an objectively correct reflection within the human head of the phenomena and processes of nature."¹

Modern science and technology offer convincing examples of how man is slowly but surely extending his powers over the external forces, how he is subordinating them to his own interests, how he is bending them to his will. The modern advances of man's cognitive activity in the field of biology, his penetration into the profound biophysical and biochemical processes of life, the secrets of the living cell, enable him to increase the yields of plant and animal products, and, what is more, to alter radically the nature of animal and plant organisms in the desired direction and

¹ V. I. Lenin, *Collected Works*, Vol 14, p. 190

to adapt living organisms so that they survive and multiply in regions where they could not exist before. Furthermore, his profound knowledge of the regularities governing the development of living bodies enables man to create entirely new types of animals and plants non-existent in nature and possessing the properties and features desired by man.

Man's brilliant progress in probing the secrets of the atom has now culminated in the practical exploitation of atomic energy in various spheres of life. Here we see the same law at work: profound cognition of the objective laws and properties of material things secures effective results in man's practical activity.

But if their knowledge of the laws of nature enables people to employ them in practice, they are doubly able to control the phenomena of social life thanks to their knowledge of social regularities. After all, unlike the laws of nature which, we know, operate independently of men and despite them, the laws of social development, though objective, operate with man's participation. The history of social life is nothing but the history of human activity, the activity of the masses, and of social classes. This is why a knowledge of the laws of social development plays so tremendous a role in the struggle for the new social system.

The organising and transforming power of Marxist-Leninist theory lies precisely in the fact that it directs the practical activity of the proletariat, that it shows the proletariat the ways and means of transforming reality and the ways of building the new, communist society. No matter how correct and good a theory may be, it will have no purpose at all if it is not used in revolutionary practice. Springing from practice, all our knowledge must return to practice not only to verify its truth, but also to illumine and direct the process of the world's revolutionary reconstruction, and the production, political and scientific activity of men. Therein lies the immense force exercised by truly scientific, objectively true cognition of the surrounding world.

Chapter Seven

SCIENTIFIC PROGNOSTICATION AND MAN'S PRACTICAL ACTIVITY

True knowledge of reality serves man as a guide in his own activities, enabling him to exercise his will over the forces of nature and social relations, and to foresee the onset of future events and new, hitherto unknown processes and phenomena in the development of the world.

Man has always been interested in his future. He has always been concerned over the destiny of his country, his own future and that of his friends and relations. His interest in the future has always been particularly acute at times of major historical and social upheavals, such as wars, which affected the lives of whole countries and individual human beings. Frequently, major astronomical phenomena, such as the appearance of comets within the Earth's sphere, touched off a special interest in the future. This natural and logical interest has invariably been exploited for its own ends by religion, which has a whole army of fortune-tellers—priests, prophets and soothsayers—whose job it is to inspire fear of the future, force men to their knees before religion and the Church, and accept the existing social order. The ideologists of the exploiting classes have always striven to hammer home to the people the idea that the existing social order is just and eternal, and that the political power of the dominant classes is unshakeable. At the same time, the ideologists of the exploiting classes, notably those of the modern bourgeoisie, are endeavouring to foretell the future, doing so, naturally, in behalf of the interests of these classes and their social objectives.

But are the ideologists of the bourgeoisie able to foretell the future objectively and correctly? Can their forecasts

serve as a guide for people in their practical activity? The facts show that they are incapable of foreseeing the future correctly, especially in the present age. This is due to the class nature of the bourgeois ideology and the class limitations of the bourgeois world outlook. In exposing the defects of bourgeois sociology, its incapacity for scientific prognostication, Lenin pointed to the following salient facts.

In the first place, he showed that the ideologists of the historically doomed imperialist bourgeoisie are organically incapable of either correctly analysing historical phenomena or of showing the tendencies of their development. He said: "It is impossible to calculate properly when one is heading for destruction."¹

Secondly, he pointed out that bourgeois sociologists ignore the decisive role of the people in history, and therefore distort the real laws of social development.

He also showed that bourgeois sociologists regard spiritual forces and ideal stimuli as the motive force of history. By doing so, they ignore the decisive impact of material factors on social life.

Finally, he pointed out that bourgeois sociology is based on the metaphysical method of thought, which prevents it from grasping the real laws of social development.

It should be stressed here that the ideologists of the ascendant bourgeoisie were able to foresee some of the important features of the future development of human society, despite the limitations of their world outlook. At the time of the struggle against feudalism, they formulated ideas expressive of the trend towards progressive social development and predicted some of the aspects in men's future relations. Jean Condorcet, the French sociologist, for example, spoke of the supreme epoch in the development of society as an epoch of equality, reason, culture, etc.² Such ideas prevailed among many of the bourgeois ideologists of the time when the bourgeoisie was rising as a social class. All the same, they showed distinct traces of bourgeois narrow-mindedness.

¹ V. I. Lenin, *Collected Works*, Vol 33, p 151.

² Condorcet, *Esquisse d'un tableau historique des progrès de l'esprit humain*, 1793.

In contrast to bourgeois sociology, Marxism-Leninism, a truly scientific world outlook, gives expression to the fundamental interests of the proletariat—a consistently revolutionary class—and of all progressive humanity, and substantiates the possibility of scientific prognostication.

What are the principles of scientific prognostication worked out by the Marxist-Leninist philosophy? What is the theoretical basis for prediction, brilliant examples of which were provided by Marx, Engels and Lenin in the past and are now being given by the Communist and Workers' Parties?

The philosophy of dialectical and historical materialism is the *general* theoretical corner-stone of scientific prognostication. The materialist world outlook and the dialectical method yield the only reliable understanding of the essence of the world around us and reveal the principal laws of nature and society. It is this that enables us to forecast future phenomena in the development of nature and future historical events in human society. On this basis, the dialectico-materialist theory of knowledge formulates the fundamental principles of scientific prognosis. The following are the most important principles:

1. Scientific prediction has to be based on an objective knowledge of the laws of the material world. The proposition that the *world is knowable* is fundamental for the idea that it is possible to make a scientific forecast. Lenin pointed out time and again that it is possible to forecast future events only after a deep study of the real state of affairs. Apprehension of the objective truth, i.e., apprehension of the essence of events and of material processes in nature and society is the prime and necessary condition for a scientific prognosis, although, as Lenin observed, the truth is often bitter and not easily discernible "beneath the tinsel of fashionable political labels or gaudy political institutions".¹

In contrast to scientific prognostication, religious prophecy and the forecasts of the present-day bourgeois sociologists have no scientific basis and are alien to scientific knowledge of the world and hostile to the objective truth. They are therefore untenable and collapse sooner

¹ V. I. Lenin, *Collected Works*, Vol 10, p. 507.

or later in the face of reality. Predictions of this kind are prompted by wishful thinking, by the desire to "fit" the future to one's goals and interests, or by fantastic religious notions. This is why Lenin always said that *fantastic prophecy is a fairy-tale and scientific prophecy is a fact*.

2. Application of the *development theory* to any analysis of reality is of paramount importance in securing a really scientific forecast. Lenin emphasised the importance of this approach, in particular in his *State and Revolution*, where he asked what data and what grounds we have for raising so confidently questions about the future, about the withering away of the state and the victory of socialism and communism. He said this data stemmed logically from the natural and historical process of social development.¹ The future is the result of the development of the present; therefore, forecasts of the future are possible (a) if based on an accurate and objectively faithful analysis of the present and (b) if based on the laws governing the development of the present, on an analysis of tendencies and the ways in which material reality is developing.

In other words, *dialectical analysis* of the laws governing the development of nature and society, which enables us to determine the character and direction of the movement of the present to the future, is the most important principle of scientific prognostication. Scientific cognition has always objectively followed this principle, which is the keystone of Marxism-Leninism. As concerns bourgeois ideology, its metaphysical method will never let it understand the laws of the development of the world and, consequently, never allow it to foresee the future correctly. The ideologists of the modern bourgeoisie are innately incapable of using the materialist dialectical method, because it is revolutionary and critical in substance.

3. Economic and political analyses of the concrete historical conditions and the situation of the struggle of the various social forces, analyses of the alignment of class forces at a given time, analyses of the class basis of the struggle between different political groups and parties in the given conditions and in the given country, are another important principle for the scientific prognostication of

¹ Ibid., Vol 23, p 458

social development processes. Lenin pointed out that a "*scientific class analysis*" must always lie at the root of any forecast of social phenomena of the present day. This is absolutely natural for Marxism-Leninism, because the proletariat is in need of a thorough, objective and scientific analysis of the correlation and struggle of the classes and of an analysis of the economic and political conditions of the struggle against the bourgeoisie, for socialism and communism.

In contrast to scientific Marxist class analyses, bourgeois sociologists produce false pictures of contemporary society; they deliberately distort the actual relations between classes by preaching "harmony of class interests" and "class peace", seeking to conceal or obscure the irreconcilable class struggle. It is only natural, therefore, that they are incapable of accurate prognoses of future events that stem from all the economic and political conditions of modern society.

4. Marxist-Leninist prognostication does not claim to prophesy future events with pin-point accuracy, or in full detail. This is what the religious prophets and oracles profess to do. Lenin stressed Marxism-Leninism's claim to foretelling basic tendencies, the *general lines of historical development*, the more important and definitive results of this development. The reference is to the prediction of the objective logic of historical development, the analysis of the *logical* in association with the *historical*, not, however, as identical ideas, because the historical, unlike the logical, includes all particularities, all single phenomena, facts, and the like. The logical, for its part, is an expression of the laws governing development. Lenin said frequently that Marx and Engels could be wrong in the details but that, on the whole, they were accurate and faithful to an amazing degree in their prognostications of the more important historical events of the epoch: inevitability of a socialist revolution, establishment of a dictatorship of the proletariat, the nature of the future world war, the shifting of the centre of gravity of the world revolutionary movement to Russia, etc.

This confirms the enormous power of Marxist prognostication, the objectivity and scientific nature of the principles followed by Marxism-Leninism in analysing and pre-

dicting historical events. It is also important, because it helps us to understand the role of prediction in the cognition of natural phenomena. In this field, too, prediction largely concerns only the main lines of development, the main results of evolution in, say, the organic world—without claiming formal precision and accuracy in time, especially with regard to individual phenomena and facts.

5. Scientific prognostication is *practical in nature*; in Marxism, and in science generally, it is not abstract and academic; on the contrary, it serves as a most important means of directing the planned and organised activity of people in promoting their interests and practical objectives. Scientific prognostication permeates the entire activity of the Communist Party of the Soviet Union, beginning with Lenin's famous appeal. "Give us an organisation of revolutionaries and we shall overturn Russia!" up to the Leninist plan for the building of communism, which is a striking example of scientific prognosis and a programme of action for its realisation

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The key principles of scientific prognosis worked out by dialectical materialism are of universal methodological significance and lie at the root of all scientific forecasting in the natural and social sciences. Let us dwell at first on a few aspects of forecasting in the natural sciences.

The appearance and development of the natural sciences—astronomy, physics, chemistry, and biology—demonstrated to mankind that it was possible to scientifically foretell occurrences in nature. As science developed, scientists not only accumulated facts, but also generalised them, developed them theoretically, and drew scientifically grounded conclusions on the nature and regularities of the processes under study and on the direction in which they were developing. At the same time, the occurrence or practical realisation of something foretold by science furnished new proof of the laws on the basis of which scientific prognostications were made.

For example, for many thousands of years people dreaded eclipses of the Sun and occlusions of the Moon, because they did not know their real cause. It was not

until the motion of the Earth round the Sun and round its axis and also the motion of the Moon had been scientifically studied that the explanation was found for eclipses, and people learned to forecast when they were going to occur. The numerous solar eclipses and lunar occultations in the 18th, 19th and 20th centuries occurred at times predicted by astronomers. Astronomers predict today that a total eclipse of the Sun will be observed in Moscow at about 11 a.m. on October 16, 2126. Scientific predictions as precise as this are possible when the regularities in question have a quantitative side that lends itself to mathematical computation.

Another extremely convincing example of scientific prognosis is the prediction by Mendeleev, the great Russian chemist, of a number of then unknown elements. In composing the periodic table of elements, he proceeded from the relation of the properties of elements to their atomic weight. Here is how Mendeleev defined this relation: "The properties of simple bodies, like the forms and properties of compounds of elements, are periodically dependent . . . on the atomic weights of elements."¹ This dependence is a law of nature. Mendeleev was so deeply convinced of the law he had discovered that he proceeded to correct the atomic weights of ten elements, which conflicted with the periodic changes of various properties of chemical elements. He also included in the table three unknown elements and predicted all their main properties.

Shortly afterwards, in 1875, the first of the elements forecast by Mendeleev was discovered by a French scientist, Lecoq de Boisbaudran, who named it gallium and fixed its atomic weight at 47. On theoretical grounds, Mendeleev insisted that the figure should be between 59 and 60. When the Frenchman repeated his experiments, he found that gallium had an atomic weight of 59.6. Thus Mendeleev, who had never seen the newly-discovered element, was able to correct the error of a man who performed direct experiments with this element. This alone testifies to the power of scientific prognostication.

It was not long before the other two elements forecast

¹ D. I. Mendeleev, *The Fundamentals of Chemistry*, Vol. 2, 13th edition, Moscow-Leningrad, 1947, pp. 80-81 (in Russian).

by Mendeleev were discovered—scandium and germanium. The properties Mendeleev had attributed to them 15 years before, were fully confirmed.

Mendeleev was not a conscious dialectician, but in his scientific research he unconsciously adhered to *dialectics*, examined chemical elements in their close connections and interdependence, analysing the transformation of quantitative changes into qualitative ones and discovering the links between the chemical and physical properties of elements. This was the methodological basis for his striking deductions. Let us, therefore, again stress the importance of logic in general, and of dialectical logic in particular, for prediction in scientific investigations. S. I. Vavilov wrote that "logic, with its boundless width, embodied in mathematical terms, remains valid, establishing the sequence of connections in the new, incomprehensible world and offering opportunities for physical predictions".¹ It is dialectical logic that establishes connections and regularities in the field of knowledge, which is one of the decisive pre-conditions of scientific foresight.

No less remarkable a scientific forecast was the prediction by the British scientist Paul Dirac of the first anti-particle—an elementary particle of matter containing a charge opposite to that of the electron. This forecast sprang from Dirac's equation—the quantum equation of the movement of an electron satisfying the conditions of the theory of relativity. A few years later this particle was observed in experiments and named the positron. Ever since, new anti particles of matter have been discovered, being, as a rule, predicted beforehand. Not only the anti-proton and anti-neutron have been discovered by now, but also different kinds of anti hyperons—the heaviest particles of the known spectrum of elementary particles of matter. As recently as 1964, scientists discovered the heavy particle omega minus, which was predicted beforehand, and its mass equalled the predicted mass with a margin of error of just 0.1 per cent.

We can safely say that the development of high-energy physics is highlighted by this ability to predict the exist-

¹ S. I. Vavilov, *Collected Works*, Vol 3, Moscow, 1950, p. 80 (in Russian).

ence of particles possessing most diverse and "strange" properties. This is added proof of the power and effectiveness of the methodological principles of Marxist scientific prognostication. Indeed, the prediction of new particles of matter is based on (1) an appreciation of the laws of their connections and interdependence, (2) an awareness of their contradictory nature, combining oscillatory and corpuscular properties, and (3) an awareness of the universal process whereby qualitatively individual particles can change into one another. This form of cognition is a genuinely dialectical process, in which our thoughts reveal the contradictory unity of matter in all its profound essence and its deep-going connections.

Man dreamed of space flights for centuries. But for centuries these were mere pipe dreams and had no real meaning. So much the greater is the historical impact of the works of Konstantin Tsiolkovsky, the Russian scientist and father of cosmonautics. He gave man's audacious dreams *the form of a scientific prediction* and showed realistic ways and means of breaking out into space.

Basing his studies on the motion of heavenly bodies and the laws of terrestrial and celestial mechanics, on the early experience of aeronautics and the flights of various flying machines, Tsiolkovsky at the turn of the century produced a number of scientific predictions, which he provided with a physico-mathematical basis, that will go down forever as an accomplishment of human genius.

Firstly, he foretold the decisive significance of rockets—including multistage or compound ones—to make interplanetary and interstellar flights practicable.

Secondly, he postulated the creation by man of artificial Earth satellites as the first real step into outer space.

Thirdly, he predicted the launching of interplanetary robot rockets to the Moon and the solar system as part of general survey of outer space.

Fourthly, he predicted the use of artificial satellites as intermediate stations for the assembly and launching of spacecraft.

Fifthly, he made accurate calculations of rocket gliding trajectories to slow down spacecraft when re-entering the atmosphere and suggested cooling systems for rocket hulls during their passage through the atmosphere.

Modern science and the practice of building sputniks, manned orbital flights and man's walk into space, coupled with moon explorations, etc., confirm Tsiolkovsky's scientific forecasts, which have oriented space research for many decades ahead. Tsiolkovsky's words ring out in our time as a great prophecy:

"Mankind will not be confined to the Earth forever, but will, in its constant pursuit of light and space, first penetrate gingerly beyond the limits of the atmosphere, then conquer the whole of space around the Sun."¹

The era of space conquest has begun and man's most fantastic dreams have become reality because they were not abstract religious pipe dreams, but real scientific forecasts based on a high degree of scientific knowledge of the laws governing the development of the material world.

All genuinely scientific predictions find a use for themselves sooner or later in different spheres of human activity when the conditions ripen. This applies equally to the results of scientific prognostication in the social and the natural sciences.

But predicting historical events, and future social phenomena and processes, is incomparably more complicated. It was not until the genuinely scientific Marxist world outlook appeared that such prognostication became scientific. Prior to Marx, man had no knowledge of the laws governing social development and could not therefore perceive the implications of his activity and the future pattern and progress of historical events. Conscious control over the development of social processes on the basis of scientific prognostication is possible only if we rely on a knowledge of the laws governing the development of human society. Before people became aware of these laws, before they mastered the motive forces of social development, they worked in the dark and could not foresee future events.

True, there were people then who attempted to reveal the motive powers of social development and draw the outlines of a future just society, but even the more far-sighted of them could offer no more than a few ideas anticipating this or that aspect of social relations.

¹ Konstantin Tsiolkovsky, *Collected Works*, the USSR Academy of Sciences, 1954, p. 3 (in Russian)

Many forward-looking thinkers were convinced that the age they lived in was an extremely unjust one. They dreamt of a society without the division into rich and poor, exploiters and exploited, with no oppression, where all people would live in brotherly harmony.

The French eighteenth-century thinkers levelled merciless, brilliantly reasoned criticism at the feudal society of their time. But they had no idea of how to rid the world of this unjust social order, and of what kind of order ought to replace it. They wanted "equality" for all men and "eternal justice" in a "Kingdom of Reason".

This mistaken view of the life of society was expounded later by the nineteenth-century Utopian Socialists, who were unequivocal in their criticism of the contemporary bourgeois order and declared that it had to be replaced by a new, socialist order. This was their great contribution to history. But they believed that socialism could have been built a long time before. If a man of genius had appeared, say, five hundred years before, they said, and had struck on the idea of fashioning a socialist society, it could have emerged there and then.

Charles Fourier, the French Utopian Socialist, blamed his predecessors for failing to discover a better social order. For twenty-three centuries, Fourier complained, people had groped about in the dark passages of history simply because philosophers had not shown them the right way and had not directed all their energies to finding a "sensible social order". Now, at last, he said, it has been discovered and "all" that remains is to put it into practice. As we know, however, none of Fourier's methods and prescriptions for this transformation were practicable. His predictions lacked sufficient scientific ground, they did not proceed from any knowledge of the laws and real motive powers of society.

Fourier, Owen and the other Utopian Socialists were sincerely eager to end the prevailing capitalist order, which they considered "extremely unjust". They were determined to replace it with a new, just socialist order. However, bare determination is not enough. One has to know how to tear down the old and build the new, socialist order. It takes knowledge of social phenomena, of the laws governing the life of society. This enables us to determine how social affairs will develop later and to direct people's activities

towards the great objectives set before them in accordance with a realistic prognosis of the future.

In contrast to the Utopian Socialists, Marxists base their forecasts of the future on the granite foundation of science. All Marxist forecasts of the future human society are therefore realistic and forceful.

The power of scientific prognostication based on Marxist science is borne out by the fact that Marx did not simply point out the basic features of the future communist order; he made a concrete study of the conditions of life under communism. In his famous *Critique of the Gotha Programme*, written in 1875, Marx predicted that communist society would pass through two phases—a lower one (socialism) and a more advanced one (communism). He described the distinctive features of each of these two phases. This is an extremely interesting fact also from the standpoint of the dialectics of the development of human thought. When a genuine science of society was finally developed, it became possible to foresee the distant future in the development of social life, even to analyse this future, while the old capitalist relations still prevailed.

Engels's analysis of the nature of the next war, although made several decades before it actually broke out, was another remarkable example of scientific prognostication. He made a thorough examination of the complex processes of his day and of the tendencies indicating the onset of a new epoch. "For Prussian Germany no other war but a world war is possible," he wrote in 1887. "This war will be of unheard-of dimensions and unheard-of force. From eight to ten million soldiers will be locked in battle and will do greater injury to Europe than ever a host of locusts could. The havoc caused by the 'Thirty Years' War, compressed into three to four years and spread to the whole continent, starvation, epidemics, a relapse to barbarity of the troops and the civilian population brought about by extreme need, hopeless tangles in our artificial machinery of trade, industry and finance ending in universal bankruptcy; collapse of ancient states and their routine state wisdom, crowns tumbling by the dozen into the dust and nobody bothering to pick them up; the absolute impossibility of foreseeing how it will all end and who will emerge the victor. Only one result may be predicted without question: universal

exhaustion and the appearance of conditions for the final victory of the working class."¹

Lenin was deeply impressed by Engels's accurate prediction and described it as a *prophecy of genius*. What matters is the deep anticipation of all the main, determinative aspects of the war, rather than the details and particulars.

The war started by Germany in 1914 did indeed spread to all of Europe and soon developed into world-wide slaughter, bringing about the downfall of the senile monarchies in Russia, Germany, Austria-Hungary, and elsewhere. Crowns did indeed lie in the dust, and there was nobody to pick them up. But what was most important were the conditions that appeared then for an enormous growth of the working-class revolutionary movement which scored a series of important victories in many European countries, including the victory of the October Socialist Revolution in Russia.

This is an illustration of the power of Marxist scientific prognostication, based on a thorough, profound *dialectical study of the contradictory essence of the epoch and the basic tendencies of its development*.

The titanic work of Lenin and the Bolshevik Party was based on a deep faith in the inevitable victory of the working class, the triumph of communism. This was no blind faith or mystic intuition, but a steadfast belief in the unshakable scientific strength of the Marxist revolutionary ideas, a belief founded on a scientific analysis and scientific anticipation of the law-governed process of history.

Writer Maxim Gorky said perspicaciously about Lenin that "he, like none before him, knew how to predict that which was bound to come. He knew how to do it and he could do it . . . because one half of his great soul lived in the future; his steel-like flexible logic showed him the remote future in wholly concrete, real shapes."²

Let us dwell for a moment on two examples of Lenin's scientific prognostication which are of great practical importance to this day.

First. At the dawn of the revolutionary activity of the Russian proletariat, Lenin anticipated the role of the

¹ Marx/Engels, *Werke*, Bd 21, S 350 51

² Maxim Gorky, *Collected Works*, Vol 24, Moscow, 1953, p 377 (in Russian).

Russian working class in determining the destiny of Russia and the world revolutionary movement. It was a time when the Russian proletariat was taking its first steps in history, when it was still immature and lacked experience. It was a time when the tsarist bourgeois-landowner regime appeared eternal and untouchable. The progressive revolutionary forces in Russia faced the difficult task of overthrowing tsarism. Yet Lenin substantiated the leading role of the Russian working class in liberating the peoples of Russia from the tsarist autocracy. Lenin foretold how the might of the Russian proletariat would sweep out the autocracy, and how the working class would lead the peoples directly to socialism. He foresaw that the overthrow of the autocracy would open up enormous opportunities for the spread of the socialist revolutionary movement both inside Russia and in other countries. We have seen how history has borne out these great prophecies.

Let us now see what the ideas developed by Lenin were based on, why they were the ones to be borne out in historical practice, and what is the root of their incontrovertible scientific strength

The most important thing here is the creative application of the key principles of scientific prognosis to the complex and contradictory state of affairs existing in Russia at the turn of the century. Russia was then a tangle of growing contradictions of every kind, presenting a picture of most complex economic, political and ideological factors and most diverse social forces.

To begin with, Lenin produced a thorough analysis of economic relations in contemporary Russia, described the economic condition of the different social classes in the country, laid bare all the contradictions in her economic and political life, and on this basis drew the conclusion that a revolution was inevitable and showed its principal motive forces. His *Development of Capitalism in Russia*, containing a mountain of facts and substantiating all Lenin's political conclusions concerning Russia's future and the historical mission of her working class, is of great importance as regards depth and insight of economic study. All his preceding works, too, were devoted to the same subject, beginning with his paper of 1893 entitled, "On the So-Called Market Question", which contained many important propositions

expressing the regularities of Russia's economic development.

In 1894 Lenin set the revolutionary socialist intelligentsia a number of problems in the field of theory, the solution of which would enable them to indicate the prospects of the practical struggle and throw into relief the historical role of the Russian working class. This theoretical work, a necessary scientific basis for a forecast of the historical possibilities of the struggle, had to.

give an integral picture of Russian realities as a definite system of production relations;

probe the essence of the economic antagonism in Russia, show all the concrete forms of this antagonism, often concealed beneath an external veil of legality;

show that working people are unavoidably exploited and expropriated; above all, the Russian industrial worker who, by virtue of his position, was the only and the natural representative of the working people and the entire exploited population of Russia.¹

Lenin stressed the need to study the development of different forms of economic antagonism, the changes in the situation of the working class, and the development of the economic conditions attendant on its struggle.

This was the scientific foundation on which Lenin made his forecast of the historical mission of the Russian working class not only in Russia, but equally in the world revolutionary movement.

Lenin also anticipated the importance of the Russian working class on the international scene. Marx and Engels had noted in their day that the revolutionary centre was shifting to Russia. By the beginning of the 20th century this process had pushed Russia to the centre of the world revolutionary movement and the Russian proletariat to the van of the international working class. It had to solve most acute and important problems for the whole international working-class movement. In his works, *What the "Friends of the People" Are and How They Fight the Social-Democrats* and *What Is To Be Done?*, Lenin substantiated the historical laws governing the transformation of the Russian working class into the vanguard of the world revolutionary

¹ V I Lenin, *Collected Works*, Vol. 1, pp. 296-300

movement, and thereby anticipated the role the Russian proletariat was to play on the international scene. At the same time, his analysis of the revolutionary movement in Germany and Britain and his appraisal of the ever increasing importance of Russia in the world wide revolutionary struggle anticipated the enormous influence the struggle of the Russian working class would exercise on the revolutionary movement in Europe. Lenin had a firm belief in the strength of the Russian revolutionary proletarian movement and summoned the Russian workers to daring and self-sacrificing struggle, he was merciless in his attitude towards cowardly inaction and the liberal demagoguery about the "dangers" of acute struggle under the cover of revolutionary phrase-mongering. Even when the revolutionary momentum of the first 1905 Russian Revolution receded, he wrote with deep confidence in the power of the revolutionary movement of the Russian proletariat that "the Russian working class will win their freedom and give an impetus to Europe by their revolutionary action, full though it be of errors—and let the philistines pride themselves on the infallibility of their revolutionary inaction!"¹

Lenin's prophecy came to pass with amazing historical accuracy. The October Socialist Revolution was a powerful stimulus for the entire European revolutionary movement, as were the subsequent historic victories of the working class and working people of the first state of the dictatorship of the proletariat in the fight for socialism and communism and in the struggle against the forces of imperialist reaction and fascism. Even the first Russian Revolution had a profound effect on the international revolutionary movement. It was under its decisive influence that the Persian Revolution of 1905-11 broke out, followed by the Turkish Revolution in 1911, the Chinese Revolution in 1911-12 and the major manifestations of the Austrian proletariat. The colossal revolutionary energy of the Eastern peoples was unleashed then, ushering in the epoch of liberation from colonialism. Lenin foresaw this even before the October Revolution, in connection with the analysis he had made of the international impact of the revolutionary struggle of the Russian proletariat.

¹ ILL., Vol. 12, p. 374

As for the significance of the 1917 Revolution, its enormous influence on world history has changed the lot of the Eastern peoples most radically. The colonial system of the world was gripped by a general crisis. The powerful national liberation movement in the Eastern countries has now spread all over the vast continents of Africa and Asia. Foreseeing these world processes, Lenin wrote: "To the Russian workers has fallen the honour and the good fortune of being the *first* to start the revolution—the great and only legitimate and just war, the war of the oppressed against the oppressors."¹

This is evidence that we have before us a brilliant prognosis of the epoch of society's revolutionary development, based on a profound knowledge of the contradictory essence of this epoch. Whatever the latter day revisionists may say, Russia's working class has played an outstanding role in the world revolutionary movement by its heroic struggle, its consistent revolutionary internationalism and the fantastic sacrifice it has borne for the cause of the world proletariat.

Second. Lenin's prophecy of socialism's complete and final victory has a strong impact on the present working-class struggle. It is anteceded historically and logically by his inference that socialism can triumph at first in one country or a group of countries; this lies at the root of Lenin's theory of the socialist revolution in the imperialist era. The following theoretical premises are the scientific methodological pre-conditions for this prognosis:

a) a concrete analysis of the latest phenomena in the capitalist economy in the present historical epoch and the political relations based on them;

b) the discovery on the basis of this analysis of the law of the uneven economic and political development of different capitalist states,

c) scientific conclusions drawn from an analysis of the law postulating the possibility of the socialist revolution winning at first in the "weaker link" of the imperialist chain. This conclusion has acquired the stature of a scientific prognosis.

Lenin's prognostication was a magnificent contribution

¹ V. I. Lenin, *Collected Works* Vol. 23, p. 350

to socialist revolutionary theory. Furthermore, it has been of enormous practical significance for the working-class struggle, for the revolution itself, and for turning the possibility of its victory into a reality. It offered the prospect of victory in the struggle for a socialist revolution, inspired people with deep faith in this victory, and mobilised and organised the energies of the working class in every country for the victory of the revolution.

There is a strict inner logic in the transition from Lenin's forecast that it is possible for a socialist revolution to win in one or a limited number of countries to the prediction that socialism can be built in one country.

Lenin's prediction that the full triumph of socialism is possible in one country was based on a thorough study of Soviet internal resources and capabilities following the victory of the socialist revolution. As Lenin showed in his different works, the following factors are decisive for the complete victory of socialism: 1) dictatorship of the proletariat, political power of the working class, which establishes a new, socialist economy in conformance with the objective laws of economic growth; 2) alliance of the working class and the peasantry, the force of the working class and the peasantry being, as Lenin put it, "the most wonderful force in the world"; 3) the economic and geographical resources of the country, its mineral wealth, the territory of the first socialist state occupying one of the finest sectors of the Earth's surface, and 4) the existence of a revolutionary Communist Party, a guiding and leading force in the system of the proletarian dictatorship, a party building its policies on the granite foundation of science.

Proceeding from an analysis of the laws governing the transition from capitalism to socialism, and a close consideration of the real possibilities of socialism being victorious in Russia, Lenin worked out a scientific plan for the building of socialism in the Soviet Union, centering on industrialisation, the establishment of peasant co-operatives and a cultural revolution—elements that have international significance. The experience of the Soviet Union and of the other socialist countries has confirmed in a striking manner the truth of his ideas and the genuinely scientific nature of his prognostications.

Lenin's relentless logic, based invariably on generalisation

and reflection of the objective logic of social being, led him to raise the question of the conditions and possibilities for the final victory of socialism in the Soviet Union and throughout the world

To begin with, Lenin formulated the conception of what final victory of socialism meant. He connected it with the impossibility of capitalist restoration and the stifling of the socialist state by international reaction "That the socialist revolution in Europe must come, and will come," Lenin wrote, "is beyond doubt. All our hopes for the final victory of socialism are founded on this certainty and on this scientific prognosis."¹ He foresaw the inevitable victory of the socialist revolution and compared it to a torch that would "set fire to the whole of Europe", saying that the Russian revolution was the vanguard of the international socialist revolution

The history of the revolutionary movement shows how right Lenin was in this forecast. The October Revolution ushered in a new strategic stage in the world proletarian revolutionary movement. In January 1918 Lenin said: "The flames of a revolutionary wildfire are leaping higher and higher over the whole of this rotten old world system."² The whole of Europe was shaken by a formidable revolutionary storm. In many countries the proletariat set up Soviets, organs of revolutionary power. Soviet socialist republics appeared in Hungary, Bavaria and the Baltic states, while many age-old monarchies collapsed. The bourgeoisie of Europe and the rest of the world, in deadly fear, mobilised all its forces and resources to save capitalism and prolong its rule. It managed to keep in the saddle then, but the capitalist world had received a mortal blow. Lenin foresaw that no matter how much resistance the bourgeoisie offered and no matter how wildly it lashed out in its death agony, no matter how much anguish and torment it caused the people during its fall, its days were numbered, the hour of its end had struck, the revolutionary working class struggle had pronounced the sentence of history, auguring the inevitable downfall of capitalism

The complete victory and consolidation of socialism in the

¹ V. I. Lenin, *Collected Works*, Vol 26, p. 443

² *Ibid*, p. 482.

U.S.S.R., the establishment of the world socialist system, the powerful revolutionary movement in European, Asian, African and Latin American countries, the deepening of the crisis of the world capitalist system—all this has radically altered the balance of forces in the world and assured the final victory of socialism on our planet.

The contemporary development of Marxist-Leninist thought and social practice provides many convincing examples of scientific prognostication. Yet the present-day bourgeois sociologists, like their predecessors, keep saying that social science is impotent, that social phenomena are highly individual and that social life is not governed by any laws. The idealist interpretation of social phenomena, ignorance and reluctance to know the laws governing their development, combined with fear for the fate of their historically doomed class, prevent them from seeing the future, which bodes them no good.

This makes the ideologists of the bourgeoisie incapable of appraising and understanding the great events of modern social life and of foreseeing their development in the future.

Hence the characteristic tendency of modern bourgeois philosophers and sociologists to assert that historical phenomena cannot be comprehended or predicted. For example, one of the best-known French sociologists, Georges Gurvitch, says in his book, *Déterminismes sociaux et liberté humaine*, that it is never possible to foresee the future of society for any long period ahead. He says sociology is incapable of determining the "causal laws" or "laws of evolution" governing the development of society, and even the "cyclical and undulatory" laws of the motion of history.¹ Karl R. Popper, an English philosopher, states in a book pertinently entitled, *The Poverty of Historicism*, that man is incapable of foreseeing either the development of human knowledge or even future human history. He says that there cannot be any scientific theory at all capable of foreseeing the future and describes Marxist propositions related to the future classless society as a "utopian mock-up".²

Of course, such negations of prognostication and the

¹ G. Gurvitch, *Déterminismes sociaux et liberté humaine*, Paris, 1955, pp. 45, 48.

² K. R. Popper, *Misère de l'historicisme*, Paris, 1935, pp. 10-11, 76

contention that Marxist ideals are utopian are no more than a confession by bourgeois ideologists that they themselves are powerless to comprehend historical laws; they are a token of the dread they feel before the strength of Marxist-Leninist ideas.

Modern American sociologists hold similar views. For example, Professor Shepard B. Clough, who has made a fairly careful study of modern capitalist America, has come to the conclusion that the future of the West is rather foggy. "Social scientists are, in general, extremely reluctant to prophesy what will transpire in the future, particularly in the distant future," he writes. "They are quick to point out that there are so many variables in all major areas of human behavior that they cannot predict with any great certainty whether or not these changing factors will remain constant enough, or in constant enough relationships, to permit a reasoned judgement regarding what will happen."¹

This same thought is expressed still more conclusively in *The New Dimensions of Peace*, a book by Chester Bowles. "The future itself is unpredictable," writes this U.S. politician. "Freedom may survive even though we Americans do all the wrong things. It may be destroyed even though we do all the right things"² His statement betrays the complete impotence of modern bourgeois ideology, its utter inability to explain the present or foretell the future. Class instincts, terror of the future, the presentiment that the imperialist system is about to go under—these are the true reasons why bourgeois ideologists cannot, and are, as a rule, reluctant to, look into the future, why they conceal it from the people and why they falsify the science of the laws of social development.

But these agnostic contentions that it is impossible to comprehend or foresee future human history are refuted by experience and practice. At present, the theory and practice of the world revolutionary movement bears witness to the fact that scientific prognostication is not only feasible, but constantly practised. Marxist-Leninist theory, a genuine

¹ Clough, *Basic Values of Western Civilisation*, New York, 1960, p. 117.

² Chester Bowles, *The New Dimensions of Peace*, New York, 1955, p. 304.

science on the laws of development of human society, enables the progressive forces to foresee the remote future—the building of communist society throughout the world—and, what is more, indicates the perspectives of development at every major stage on the way to this cherished objective, helping to define the appropriate tasks of the working people in their revolutionary struggle. “Equipped with a scientific theory of social development, communism is the only political movement in the world that is able to see clearly the historic prospects of mankind.”¹

The Declaration and Statement of the Meetings of the Representatives of the Communist and Workers' Parties in 1957 and 1960 and other documents of the world communist movement are convincing evidence that this is so. They proceeded from a thorough dialectical analysis of the present time, from the proposition that communism is sure to triumph over capitalism, and formulated the practical tasks in the struggle for the victory of the socialist revolution in every country where capitalism is still in power, for the building of a communist society in all lands. This forecast is highly important in our time—the time of transition from capitalism to socialism, the time of socialist revolution and national liberation, when a major struggle is underway between the two opposite social systems, whose outcome is being settled by the practice of modern life.

Scientific anticipation of the progressive development of every country, the abolition of the imperialist colonial system, the development of the world socialist system into a decisive factor of contemporary social affairs, the stand on the issue of war and peace, etc.—all this puts a powerful weapon into the hands of the revolutionary and progressive forces and inspires them in the struggle to attain their targets; it lights their way in this struggle and shows how society can be reconstructed. The scientific prediction of the possibility of non-capitalist development is helping young newly-free states to discover new opportunities, to resolve the problem of the character and form of government, and to settle many other important issues connected

¹ L. I. Brezhnev, Report of the Central Committee of the C.P.S.U. to the 23rd Congress of the C.P.S.U., *Twenty-Third Congress of the Communist Party of the Soviet Union*, Moscow, 1966, p. 23.

with their economic and political development. Scientific foresight and scientific analysis of contemporary social affairs, as we see, is necessitated by the urgent practical tasks of the revolutionary struggle.

Scientific prediction, as has been shown above, is of exceptionally great practical importance for Marxist-Leninist Parties. This may be set out in the following basic propositions:

Firstly, the working out of a common programme of action implies a direct prognosis of the chief objectives and tasks of the Party and the working class at a given strategic stage of the revolution. These objectives have to be formulated in conformity with the demands of scientific analysis and scientific prognostication; if this is not done, the Party programme is likely to become an abstract and unreal scheme or to contain only one-sided, narrow and limited objectives.

A scientific definition of the chief objectives at each major stage of the struggle for the revolution and for the building of socialism is also important in that it alone makes it possible to work out appropriate ways and means for realising these objectives. Therefore, all Party programme documents always outline both the general perspectives of the struggle, the main strategic goals and the basic ways and means of putting them into practice.

Secondly, scientific prognostication is a necessary condition both for the working out of the chief, fundamental objectives of the Party and for correct leadership over the entire tactical and everyday struggle of the Party and the working class. In order to supply the correct answers to the practical questions, to find one's way in the complex and contradictory conditions of the struggle, in the swiftly changing circumstances, or, to put it briefly, *in order to lead correctly, one has got to foresee.*

Otherwise, Party leaders may have to confront unexpected circumstances springing out of the blue, as it were, and, being caught unawares, may fall into serious error. Scientific prediction, analysis and consideration of all necessary and possible situations, is an effective guarantee against

error and ensures correct leadership in the variable circumstances.

Thirdly, it is impossible to make scientific forecasts in the strategic and tactical struggle of the parties, unless the most important principles worked out by Marxist-Leninist philosophy are properly observed. Therefore, the Communist and Workers' Parties must systematically and thoroughly study reality, the actual historical conditions of the struggle at every stage of the revolution and the building of socialism. They must make accurate studies of the class structure of society and disposition of class forces, study how social relationships alter, and apply the rules of materialist dialectics which is a genuine scientific theory of development. This is the only way to foretell the course of historical events and to perform the work of the Party on the basis of scientific prognostication.

All this underscores the importance of Marxist-Leninist philosophy, which enables us to comprehend the laws of the world around us, foresee the progress and development of historical events and ensure that the Communist Parties have correct leadership in their theoretical and practical activities.

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